M.O.H. Report,
1934—35.

City of Johannesburg.

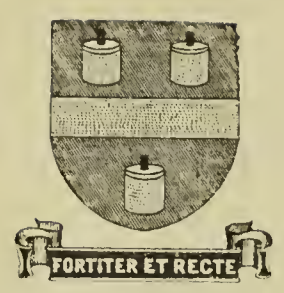
REPORT of the MEDICAL OFFICER OF HEALTH on the PUBLIC HEALTH and SANITARY CIRCUMSTANCES of JOHANNESBURG during the Year 1st JULY, 1934—30th JUNE, 1935.

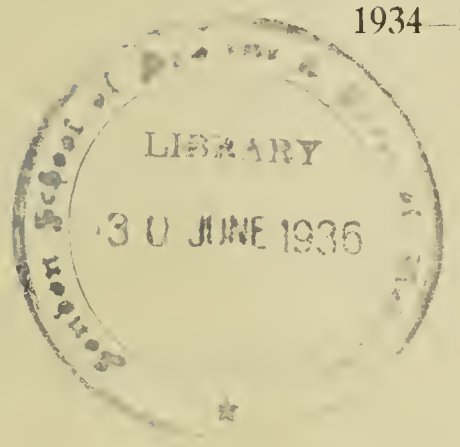
ARTHUR J. MILNE, M.B., Ch.B., D.P.H., D.T.M.

Medical Officer of Health; Hon. Cons. Medical Officer of the Rand Water Board; Medical Officer under Native Labour Regulations, Johannesburg Mining District; Lieut.-Colonel, Union Defence Force: President, South African Health Officials' Association.

JOHANNESBURG,
NOVEMBER, 1935.

Johannesburg:
Printed by Radford, Adlington, Ltd., cor. Rissik and Marshall Streets
—
1935





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Report of the Medical Officer of Health, 1934—1935.

Public Health Department,
City Hall,
Johannesburg,
November, 1935.

To His Worship the Mayor (Mr. Councillor Maldwyn Edmund, J.P., M.P.C.)
and City Councillors of the City of Johannesburg.

Gentlemen,

I have the honour to present herewith my report of the health conditions of Johannesburg for the year 1934-35.

It is a pleasure to be able to record that the work of all members, professional, clerical and technical, of your Public Health Department has maintained the high level, which the recent Commission of Enquiry generally substantiates in its findings, befitting the largest city in the Union of South Africa. Personally and officially I desire to acknowledge their valued assistance, often in difficult situations, and their loyalty both to the Council which they serve and to myself.

A detailed record for the year of inspections, etc., undertaken by the inspectorate staff is submitted on page 42.

I also desire to express my thanks in particular to the occupant of the Mayoral Chair during 1934-35 (Councillor M. Freeman), and to the members of the Public Health Committee who extended to me kindly assistance and courtesy, and to all other Heads and Sub-Heads of Departments for their willing co-operation and assistance.

I have the honour to be, Gentlemen,

Your obedient servant,

A. J. MILNE,
Medical Officer of Health.

INDEX.

INDEX—(Continued).

CITY OF JOHANNESBURG.

PUBLIC HEALTH COMMITTEE, 1934-1935:

Councillor S. Hancock (Chairman).
Councillor H. Kroomer (Vice-Chairman).
Councillor C. F. Beckett.
Councillor L. Leveson.
Councillor D. Morgan-Davies.
Councillor Mrs. E. M. Pemberton.
Councillor J. Stevenson.
His Worship the Mayor (ex officio).

PUBLIC HEALTH DEPARTMENT.

STAFF.

Administrative and Office—

1 Medical Officer of Health: Arthur J. Milne, M.B., B.Ch., D.P.H., D.T.M.
1 Assistant Medical Officer of Health: Gordon Dacomb Laing, B.Sc., M.B., Ch.B. (St. And.), D.P.H.
1 Chief Clerk: F. Thompson, Cert. R.S.I. (S.A.).
1 Typist Correspondent: Miss E. Oliver.
1 Licensing Clerk and Typist: Miss O. V. Joel.
1 Assistant Licensing Clerk and Typist: Miss G. N. Cocks.
1 Junior Clerk: W. van Derau.
1 Messenger: J. Boshoff.

Technical—

1 Bio-chemist: Harold Wilson, B.Sc. (Lond.), A.M.C.I.
1 Chief Chemical Assistant: J. A. McLachlan.
3 Assistant Chemists: E. G. White, J. R. Gaillard, Miss F. M. Roberts.
1 Typist: Miss A. M. Stewart.

Inspectorial Staff—

1 Chief Health Inspector: G. Bidwell, Cert. R.S.I. (Eng.).

3 Plans Inspectors: C. J. Crothall, Cert. R.S.I. (Eng.), to 27th May, 1935; E. Coetzee, Cert. R.S.I. (S.A.); A. H. Spargo, Cert. R.S.I. (S.A.).

18 District Health Inspectors:

H. H. Alexander.	J. H. Haskins (left 31/10/34).	J. Smith.
H. Ballantyne.	E. C. Heather.	E. A. Smorenburg.
A. Beale.	W. G. Howarth.	J. Wilson.
J. A. Bell.	C. R. Morrison.	N. A. Meintjes (left 15/10/31).
M. A. Elyat.	A. Patterson.	C.H. S. Whitehead.
R. W. G. Grant.	J. S. Pitman.	C. C. Fowles.

All Certified Royal Sanitary Institute (S.A.).

2 Probationary Health Inspectors:

V. P. Devitt.
Vacant.

Certified Royal Sanitary Institute (S.A.).

3 Housing Inspectors appointed to deal with Insanitary Properties under the Slums Act, 1934 and Local Government Ordinance:

P. Squires, Cert. R.S.I. (S.A.).
F. Smith, Cert. R.S.I. (S.A.).
T. Patterson, Cert. R.S.I. (S.A.).

2 Mines Sanitation Inspectors:

R. H. Pope, Cert. R.S.I. (S.A.).
D. Smith, Cert. R.S.I. (S.A.).

2 Food and Drug Inspectors:

S. G. Russell, Cert. R.S.I. (S.A.).
J. S. Russell, Cert. R.S.I. (S.A.).

5 Dairy Inspectors:

W. C. Watson, Cert. R.S.I. (S.A.).
G. Christie, Cert. R.S.I. (Eng.).
J. W. Forrett, Cert. R.S.I. (S.A.).
I. J. Distiller, Cert. R.S.I. (S.A.).
W. C. E. Lewis, Cert. R.S.I. (S.A.).

Infectious Diseases and Disinfecting Station—

1 Infectious Diseases Inspector: A. C. Fraser, Cert. R.S.I. (S.A.).
2 Disinfecting Inspectors: H. J. Hancock and J. A. M. Bain.
1 Disinfecting Engineer: J. P. Jonas. Six native assistants.

Maternity and Child Welfare—

1 Pediatric Officer:
B. G. v. B. Melle, M.B., B.Ch. (Oxford), F.R.C.S.E.

2 Obstetric and Ante-Natal Officers:
W. H. Maxwell, M.A., M.B., L.R.C.P., F.R.C.S.
F. K. Te Water, M.B., B.Ch., L.R.C.P., F.R.C.S.E.

1 Senior Health Visitor:
C. Morisse.

All Trained General Nurses and Midwives and all certificated Health Visitors and School Nurses, Royal Sanitary Institute.

9 Health Visitors:
(1) M. G. Ferris.
(2) E. Ide.
(3) M. Craig.
(4) G. K. Jordan.
(5) T. G. White.
(6) E. Orn.
(7) L. W. Godfrey.
(8) M. S. Wilson.
(9) R. E. Smith.

S.H.V., Cert. R.S.I. (S.A.), Sanitary (Health) Inspector.

(2) Cert. R.S.I. (S.A.), Sanitary (Health) Inspector and Meat and Food Inspection.

4 Ante-Natal Nurses:
(1) D. A. Smith.
(2) E. M. Hart.
(3) A. Siebert.
(4) A. Marshall.

All Trained General Nurses and Midwives.

(4) Cert. R.S.I. (S.A.), Health Visitor and School Nurse.

1 Psychiatrist: J. T. Dunston, M.R.C.S., L.R.C.P., B.S., M.D.
1 Supervisor, Nursery Health Classes: Miss E. Brosius.
6 Assistants, Nursery Health Classes.

Fever Hospital—

1 Physician-in-charge: H. A. Loeser, M.D.
1 Assistant Physician (Honorary): P. Bayer, M.D., M.R.C.P.
1 Resident Medical Officer.

Nursing Staff:
Permanent: 1 Matron, 3 Sisters.
Temporary: 1 Staff Nurse, 8 Probationers.

Administrative: 1 Clerk.
1 Typist and Switchboard Attendant.

General: 23 Natives.

Venereal Diseases Clinic—

1 Director: H. Gluckman, M.R.C.S. (Eng.), L.R.C.P. (Lond.)
1 Clinic Orderly (Male).
2 Nursing Sisters.

Plague Rat-catching Staff—

1 Senior Rodent Inspector: R. J. Fox.
1 Junior Rodent Inspector: N. J. Smith.
10 Rat-catchers.
11 Rat-catching Youths.

Report, 1st July, 1934—30th June, 1935.

CLIMATE AND RATEABLE VALUE.

Latitude.—26 degrees 11 minutes 44 seconds South.

Longitude.—1 hour 52 minutes 10 seconds East.

Mean Altitude.—5,850 feet.

Climate.—The days are bright and warm, the nights cool, and in winter often very cold. The following averages of Johannesburg records for thirty years are kindly supplied by H. E. Wood, Esq., Union Astronomer: Temperature, average maximum 70·1 degrees F., average minimum 49·7 degrees F.; highest recorded 93·6 degrees F. on 21st December, 1926, lowest recorded 20·8 degrees F. on 23rd July, 1926. Annual rainfall, 29·68 inches on 96 days. Relative humidity, 59·5 per cent. (average of sixteen years). Bright sunshine, 8-9 hours daily.

Area.—The area of the City of Johannesburg is 52,330 acres (*vide Government Gazette*, October, 1903), the extreme length 11½ miles, extreme breadth 9½ miles, extent of perimeter 41½ miles.

Annual Rateable Value.—As assessed in accordance with Ordinance 13 of 1928, and representing " the full and fair price or sum which the same would realise if brought at the time of valuation to voluntary sale," was in 1934-35 £76,615,511.

The rate for 1934-35 was 5d. in the £ on land. Rate produced £585,323 7s.; Special Road Rate, 1d. in the £1 on land, producing £104,707 14s. 7d. Total, £690,031 1s. 7d.

In 1934-35 the valuation was: Land, £27,831,858; Improvements, £48,783,653.

POPULATION.

	Census. 3rd May, 1931.	Estimated. 30th June, 1935.
Whites	199,203	240,000
Natives		182,700
Eurafricans		14,700
Asiatics		10,600
Total		448,000

BIRTHS.

From 1st July, 1934, to 30th June, 1935, the number of white births registered was 5,100, as compared with 4,510 and 4,379 in 1932-33 and 1933-34 respectively.

The *white birth-rate* was 21·5 per 1,000 for 1934-35, the two previous years being 21·19 and 19·72.

For England and Wales in 1934 the birth-rate was 14·8, in Pretoria 25·00, in Capetown 16·58, and in Durban 19·33 for 1934-35.

White Illegitimate Births.—These numbered 124, and constituted 2·43 per cent. of all births, as against 4·75 in Capetown, and 3·96 in Pretoria in 1934-35.

The *native and coloured births* registered during 1934-35 numbered 2,160, as against 2,148 in 1932-33 and 2,406 in 1933-34. But as the ratio of females to males in the native and coloured population is not known, no native census having been made since 1921, it would merely mislead to strike a birth-rate.

The numbers, however, indicate very clearly what continues to happen in Johannesburg, as elsewhere in urban areas in South Africa, which is that in spite of the Natives (Urban Areas) Act and its amendments, urban authorities are threatened with the complex problem of dealing with a large and increasing mass of detribalised natives, who are not only unnecessary for the city's domestic and industrial requirements, but whose presence in the city implies grave handicaps in respect of native housing and the clearance of slum properties. In this regard it is notable that the City Council is proceeding rapidly with the extension of " Orlando " Native Township, where ultimately housing accommodation will be available for some 40,000 natives. This township is developing into an almost ideal native town and one which the Council may take a very legitimate pride in. There will certainly not be anything of the kind in the Union, or indeed in Southern Africa, to compare with it, thanks to the long-sighted policy of the Council and its Native Affairs Committee. The completion of this township, together with existing native housing at Klipspruit Location, the Western and Eastern Native Townships, the Wemmer Barracks, and the single men's and single women's hostel at Wolhuter, besides providing the native races with healthy and congenial housing accommodation, will in large measure solve the slum problem in the City itself so far as native occupation is concerned, provided the influx of undesirable and unnecessary natives is suitably controlled by the Native Affairs Department of the Union Government.

DEATHS AND DEATH-RATES.

The deaths herein referred to are those of persons who died within the extended Municipal Area as defined by Proclamations 13 of 1902 and 46 of 1903, corrected for Inward and Outward Transfers:—

Deaths.

Year	Whites	Natives	Eurafricans	Asiatics	All Persons
1925-26	1,600	2,238	309	114	4,261
1926-27	1,801	2,621	354	139	4,915
1927-28	1,858	2,696	440	137	5,131
1928-29	1,989	2,795	304	143	5,231
1929-30	1,942	3,115	339	172	5,568
1930-31	2,038	3,349	357	181	5,925
1931-32	2,070	3,309	356	183	5,918
1932-33	2,181	3,178	354	210	5,923
1933-34	2,264	3,872	380	194	6,710
1934-35	2,345	3,478	401	187	6,411

Death-Rates.

DEATH-RATES (excluding non-residents)	White		Natives	Eur-africans	Asiatics	All Persons
	Gross	*Corrected for Age and Sex distrib.				
1925-26	9·50	—	17·95	25·56	19·19	13·70
1926-27	10·46	—	18·77	27·57	22·78	14·85
1927-28	10·50	—	18·52	31·16	21·39	14·96
1928-29	11·05	—	19·07	17·88	20·42	14·92
1929-30	10·67	—	21·62	18·83	22·93	15·72
1930-31	10·22	—	22·32	17·85	22·62	15·70
1931-32	10·01	—	21·84	17·45	22·60	15·35
1932-33	10·22	*10·83	20·55	25·28	21·00	15·11
1933-34	10·19	*10·80	23·32	26·48	18·74	16·25
1934-35	9·77	*10·35	19·03	27·27	17·64	14·31

* Factor for correction 1·06.

Death-Rate in British and South African Cities.

Appended, for purposes of comparison, are particulars as to the "Death-rate per 1,000 from All Causes" in England and Wales, and in the large cities and towns of the Union:—

Greater London (i.e., Metropolitan and City Police Districts)	11·0 (1934)	JOHANNESBURG—	
England and Wales	11·8 „	Whites	9·77 (1934-35)
East London	11·3 (1934-35)	Natives	19·03 „
Durban	9·82 „	Eurafricans	27·27 „
Bloemfontein	6·8 „	Asiatics	17·64 „
Capetown	10·84 „	All Persons	14·31 „
Pretoria	8·63 „		
Pietermaritzburg	8·00 „		

Except in regard to South African towns, these figures are taken from the Statistical Review of the Registrar-General for England and Wales, 1934. The European Death-Rate is considerably lower than that of the great towns of England and Wales and at 9·77 is considerably lower than it has been since 1925-26 as is also the rate for all persons. In the absence of reliable census figures and in view of the very rapid extension of the City in recent years it is believed that the rates are considerably lower than even they appear to be.

CAUSES OF DEATH.

The causes of and ages at death and the local distribution are analysed in the usual Tables A to D for "Whites," "Natives," "Eurafricans" and "Asiatics" respectively. For reasons of economy, these voluminous tables have not, however, been printed, but are available for inspection.

FACTORS OF MORTALITY, 1932-33, 1933-34 AND 1934-35.

DISEASE		1932-33		1933-34		1934-35	
		Deaths	Rates	Deaths	Rates	Deaths	Rates
Enteric Fever ...	W.	18	0·08	32	0·14	16	0·06
	N.	84	0·54	82	0·49	60	0·33
	E.	6	0·42	6	0·41	3	0·20
	A.	2	0·20	2	0·19	1	0·09
Measles ...	W.	14	0·06	2	0·009	12	0·05
	N.	6	0·03	6	0·03	4	0·02
	E.	3	0·21	1	0·06	1	0·06
	A.	1	0·10	—	—	1	0·09
Scarlet Fever ...	W.	2	0·009	1	0·004	5	0·02
	N.	—	—	—	—	—	—
	E.	—	—	—	—	—	—
	A.	—	—	—	—	—	—
Whooping Cough ...	W.	10	0·04	14	0·06	6	0·02
	N.	1	0·006	12	0·07	6	0·03
	E.	—	—	1	0·06	1	0·06
	A.	—	—	4	0·38	—	—
Diphtheria and Croup ...	W.	10	0·04	16	0·07	23	0·09
	N.	2	0·01	5	0·03	2	0·01
	E.	1	0·07	2	0·13	—	—
	A.	1	0·10	—	—	1	0·09
Influenza ...	W.	60	0·28	41	0·18	30	0·12
	N.	16	0·10	21	0·12	21	0·12
	E.	1	0·07	2	0·13	3	0·20
	A.	2	0·20	—	—	1	0·09
Tuberculosis of Lungs ...	W.	51	0·23	63	0·28	62	0·25
	N.	220	1·42	223	1·34	209	1·17
	E.	20	1·42	25	1·17	33	2·14
	A.	10	1·00	12	1·15	6	0·86
Other Forms of Tuberculosis...	W.	7	0·03	6	0·02	5	0·02
	N.	29	0·18	40	0·21	35	0·19
	E.	2	0·14	4	0·27	4	0·17
	A.	—	—	—	—	2	0·18
Cancer ...	W.	219	1·02	222	1·00	229	0·99
	N.	26	0·17	28	0·16	26	0·14
	E.	10	0·71	4	0·27	10	0·68
	A.	5	0·50	6	0·51	8	0·75
Meningitis ...	W.	21	0·09	23	0·10	40	0·16
	N.	39	0·25	46	0·27	122	0·66
	E.	5	0·35	5	0·34	3	0·20
	A.	3	0·30	—	—	3	0·28
Cerebral Hæmorrhage and Softening	W.	54	0·25	67	0·30	83	0·34
	N.	9	0·05	12	0·07	10	0·05
	E.	6	0·42	10	0·68	8	0·68
	A.	1	0·10	3	0·28	3	0·28

DISEASE		1932-33		1933-34		1934-35	
		Deaths	Rates	Deaths	Rates	Deaths	Rates
Diseases of the Heart ..	W.	342	1·13	354	1·54	384	1·60
	N.	153	0·98	207	1·24	188	1·02
	E.	31	2·21	40	2·78	44	2·99
	A.	12	1·22	21	2·02	27	2·84
Acute Bronchitis ...	W.	25	0·11	25	0·11	13	0·05
	N.	166	1·07	183	1·10	151	0·81
	E.	18	1·28	14	0·97	17	1·15
	A.	16	1·60	15	1·44	2	1·13
Chronic Bronchitis ...	W.	55	0·25	71	0·31	70	0·29
	N.	21	0·13	39	0·23	50	0·26
	E.	10	0·71	13	0·90	14	0·95
	A.	7	0·70	4	0·38	8	0·75
Pneumonia ..	W.	304	1·42	300	1·65	356	1·48
	N.	968	6·26	1,131	6·81	1,078	5·90
	E.	83	5·92	89	6·20	63	4·28
	A.	62	6·20	40	3·86	51	4·81
Silicosis ...	W.	33	0·15	34	0·15	27	0·11
	N.	14	0·09	5	0·03	6	0·03
	E.	7	0·50	3	0·20	2	0·13
	A.	—	—	—	—	—	—
Other Respiratory Diseases ...	W.	36	0·16	31	0·13	26	0·10
	N.	42	0·27	25	0·15	33	0·17
	E.	1	0·07	5	0·34	1	0·06
	A.	2	0·20	3	0·28	3	0·28
Diarrhœa and Enteritis ...	W.	145	0·68	125	0·56	101	0·42
	N.	524	3·39	772	4·65	540	2·95
	E.	57	4·07	61	4·25	60	4·08
	A.	31	3·10	38	3·67	29	2·73
Acute Nephritis and Bright's Disease ...	W.	109	0·51	89	0·40	127	0·52
	N.	60	0·39	71	0·42	75	0·41
	E.	5	0·35	15	1·04	3	0·20
	A.	3	0·30	4	0·38	3	0·28
Congenital Malformation Premature & Early Infancy	W.	156	0·73	144	0·64	161	0·67
	N.	213	1·37	220	1·32	224	1·22
	E.	34	2·42	30	2·09	39	2·65
	A.	19	1·90	20	1·93	11	1·03
Violent Deaths	W.	150	0·70	161	0·72	225	0·97
	N.	317	2·05	411	2·47	368	2·01
	E.	19	1·36	19	1·32	13	0·88
	A.	8	0·80	6	0·57	1	0·09

The following observations are suggested by an inspection of this table:—

(1) That during 1934-35 the chief factors of mortality were:—

(a) *For Whites.*—Heart diseases (384), pneumonia (356), cancer (229), violent deaths (225), congenital debility (161), acute nephritis and Bright's disease (127), diarrhœa and enteritis (101), cerebral hæmorrhage (85), chronic bronchitis (70), tuberculosis of lungs (62), meningitis (40), influenza (30), silicosis (27), other respiratory diseases (26), diphtheria (23), enteric fever (16), and acute bronchitis (13).

(b) *For Natives.*—Pneumonia (1078), diarrhœa and enteritis (540), violent deaths (368), congenital debility (224), tuberculosis of lungs (209), heart diseases (188), acute bronchitis (151), meningitis (122), acute nephritis and Bright's disease (75), enteric fever (60), chronic bronchitis (50), other forms of tuberculosis (35), other respiratory diseases (33), cancer (26), influenza (21), cerebral hæmorrhage (8), and nephritis (3).

(c) *For Eurafricans.*—Pneumonia (63), diarrhœa and enteritis (60), heart diseases (44), congenital debility (39), tuberculosis of lungs (33), acute bronchitis (14), chronic bronchitis (14), violent deaths (13), cancer (10), cerebral hæmorrhage (8), and nephritis (3).

(d) *For Asiatics.*—Pneumonia (51), diarrhœa and enteritis (29), heart diseases (27), congenital debility (11), chronic bronchitis (8), and tuberculosis of lungs (6).

(2) That the comparison with the two previous years is as follows:—

(a) *As regards Whites*, the principal increases are in respect of heart diseases, 384 as compared with 354 in 1933-34 and 342 in 1932-33; pneumonia, 356, as compared with 300 in 1933-34 and 304 in 1932-33; nephritis, 127 as compared with 89 in 1933-34 and 109 in 1932-33; and violent deaths, 225 as compared with 161 in 1933-34 and 150 in 1932-33. The principal decreases are in respect of diarrhœal diseases, 101 as compared with 125 in 1933-34; and enteric fever, 16, as compared with 32 in 1933-34.

(b) *As regards Natives*, the principal increases are in respect of meningitis, 122 as compared with 46 in 1933-34 and 39 in 1932-33; chronic bronchitis, 50 as compared with 39 in 1933-34 and 21 in 1932-33. Marked decreases are shown in diarrhœal diseases, from 772 in 1933-34 to 540 in 1934-35; pneumonia, from 1,131 to 1,078; violent deaths, from 411 to 368, and acute bronchitis, from 183 to 151.

(c) *As regards Eurafricans*, there is nothing worthy of comment except a decrease in respect of pneumonia, from 89 to 63, and an increase in tuberculosis of lungs, from 25 to 33.

(d) *As regards Asiatics*, there is an increase in respect of heart diseases and pneumonia, and a decrease in acute bronchitis from 15 in 1933-34 to 2 in 1934-35.

Acute lung conditions are still, as always they have been, the greatest bugbear in our general morality rate. A total of 1,731 deaths from pneumonia and other acute lung conditions in all races is very high, but is slightly below the average for some years past.

INFANTILE MORTALITY, MATERNAL MORTALITY AND MATERNITY AND CHILD WELFARE MEASURES.

Infantile Mortality, i.e. deaths of infants under one year per each 1,000 births registered, was: Whites 69·21, Eurafricans 179·69 and Asiatics 155·70.

The following table shows the white infantile mortality rate in recent years:—

1925–26	1926–27	1927–28	1928–29	1929–30	1930–31	1931–32	1932–33	1933–34	1934–35
74·01	83·29	83·39	72·77	78·62	79·08	76·61	80·04	82·43	69·21

This rate is very notably lower than the same rate in any year in the past decennium. Taking into consideration the large influx of population from the country-side and the fact that the country-side parent is frequently little cognisant of mothercraft methods and their correct application, the rate is remarkably low, and indicates very clearly the advantages accruing from that extension of the Maternal and Child Welfare staff which the Council has at much pains and at considerable cost built up. Further extension is a project of the near future and with the advantages which will be obtained in the pursuit of the Council's Housing Schemes, particularly sub-economic schemes, one may, with some confidence, look forward to further substantial decrease in this infantile mortality rate in the future.

MATERNAL MORTALITY.

	Puerperal Sepsis per 1,000 Births		Other Causes per 1,000 Births		All Causes per 1,000 Births	
	Joh'burg	E. & W.	Joh'burg	E. & W.	Joh'burg	E. & W.
1925-26	1·50	1·56 (1925)	4·00	2·51	5·50	4·07
1926-27	1·72	1·59 (1926)	1·97	2·52	3·69	4·11
1927-28	3·33	1·56 (1927)	1·90	2·55	5·23	4·11
1928-29	1·49	1·79 (1928)	2·35	2·63	3·85	4·42
1929-30	1·07	1·80 (1929)	2·77	2·53	3·85	4·33
1930-31	1·42	1·92 (1930)	1·01	2·48	2·44	4·40
1931-32	1·05	1·66 (1931)	1·89	2·45	2·94	4·11
1932-33	1·55	1·61 (1932)	0·22	2·60	1·77	4·21
1933-34	3·65	1·82 (1933)	4·33	2·68	7·99	4·51
1934-35	2·15	1·95 (1934)	1·96	2·47	4·11	4·41

The above table shows the Maternal Mortality Rate for Puerperal Sepsis, Other Causes and All Causes. Commenting on this Maternal Mortality Rate in my report for 1933-34, I said:—

"A jump in the average rate of about three deaths per thousand births in recent years to about eight deaths per thousand births in 1933-34, must give food for serious thought. Admittedly the rate is abnormally high both in regard to Puerperal Sepsis and Other Causes.

"The 'Other Causes' are explainable, at least to some extent, when we find that of the 16 deaths in this category no less than 11 were occasioned by non-preventable conditions, i.e. 4 Ectopic Gestations, 4 Post Partum Hæmorrhage, 2 Placenta Prævia, and 1 Cæserian Section.

"Examining the tabulated figures of Puerperal Sepsis cases we find that extraordinarily high figures were recorded in 1927-28, and now again in 1933-34. In both these periods Scarlet Fever was epidemic in Johannesburg, and it is a reasonable deduction that in the presence of large streptococcal infections such as Scarlet Fever, the maternal mortality rate on account of septic complications of child-birth is more than likely to show a substantial increase over years when streptococcal infections are not prevalent."

Scarlet Fever has continued to be unusually prevalent in the City in the year under review and for that reason it is not unexpected that this rate has not yet fallen to normal proportions. It has, however, decreased materially from 3·65 to 2·15 from Puerperal Sepsis causes.

1.—GENERAL SUMMARY—EUROPEANS.

Year	Number of		Mothers referred to		Infants sent to Children's Hospital and O.P.D.	Infants Reported to Children's Aid Society	Mothers Attending		Cases Referred to Pediatric Officer	Ante-Natal Clinic	Assisted at Clinics
	First Visits	Re-visits	Maternity Hospital	Ante-Natal Nurse			Welfare Clinics	Health Visitors' Office			
1933–34 ...	2,669	10,210	95	321	415	12	44,382	246	1,225	1,935	13,708
1934–35 ...	3,394	8,822	163	421	320	26	44,850	319	1,426	2,294	12,428

2.—BIRTHS INVESTIGATED.

Year								
1933–34 ...	Legitimate : 2,640	...	Illegitimate : 41	...	Full Time : 2,617	...	Premature : 64	...	Stillborn : 27
1934–35 ...	,, 3,342	...	,, 67	...	,, 3,328	...	,, 81	...	,, 35

Year	Attended by				Condition of Mother				Condition of Infant					Condition of Home				
	Doctor	Midwife		Friends	Good	Fair	Poor	Sick	Good	Fair	Poor	Sick	Dead	Good	Fair	Bad	Clean	Dirty
		Trained	Untrained															
1933–34 ...	404	2,022	639	8	2,579	61	6	‡19	2,563	56	7	16	39	2,190	441	38	2,655	14
1934–35 ...	847	2,581	796	†9	3,259	93	7	35	3,232	74	7	15	81	2,719	527	58	3,348	46

† Unattended 8. ‡ Dead 4

3.—METHODS OF FEEDING.

Year	Breast Milk	Cow's Milk	Tinned Milk	Breast and Complemental	Other Foods	Feeding Bottles				Comforter Used
						Pattern		Condition		
						Good	Bad	Good	Bad	
1933–34 ...	2,473	40	32	106	30	85	2	85	2	743
1934–35 ...	3,038	194	73	55	49	210	6	210	6	764

4.—NATIVE TOWNSHIPS.

First Visits	Re-visits	Welfare Clinics and Office Attendances	Feeding		Comforter Used
			Breast	Other	
Health Visitors 591 Native Nurses 306	Health Visitors 7,684 Native Nurses 19,116	8,713	844	54	123

5.—EURAFRICANS.

First Visits	Re-visits	Legitimate	Illegitimate	Full Time	Premature.	Attended by			
						Trained Midwife	Untrained Midwife	Friends	No One
493	1,693	422	73	487	6	119	333	34	5

6.—ASIATICS.

First Visits	Re-visits	Legitimate	Illegitimate	Full Time	Premature	Attended by			
						Trained Midwife	Untrained Midwife	Friends	No One
374	2,690	370	5	367	8	149	221	4	—

These tables again reveal the considerable extension of the Department in regard to Maternal and Child Welfare measures. Comparing the figures for 1933-34 with those for 1934-35, we find that in the latter year period there were 3,394 first visits compared with 2,669 in 1933-34, there were 8,822 re-visits as compared with 10,210, there were 421 cases referred to the Ante-Natal Nurses as compared with 321 cases, there were 320 infants sent to the Children's Hospital and Out-patient Department as compared with 415, there were 44,850 attendances at Clinics as compared with 44,382, and there were 2,294 attendances at Ante-Natal Clinics as compared with 1,935. In other words, child and maternal work in the Department is an ever and constantly increasing factor in the Department's activities. The figures demonstrate indisputably an increasingly greater demand for the services of your Maternal and Child Welfare staff and appreciation of the Clinic provisions afforded. That demand is not only a tribute to the services which the Council provides, but an appreciation of the services of the staff.

Breast Feeding.—Whilst the percentage of breast-fed infants has fallen slightly, viz., from 92·2 per cent. in 1933-34 to 89·5 per cent. in the year under review, the percentage, approaching 90 per cent., is still very high. The slight decrease, if it can be attributed to any particular factor, might readily be ascribed to the importunities of artificial food merchants and the passivity of many medical men, who ought to know better, to the blandishments of these merchants, and possibly to the necessities of poor mothers who are increasingly becoming wage earners. It is most certainly not due to the teachings of the Welfare Staff of the Department, who consistently not only advocate but do their utmost to ensure breast feeding.

STAFF AND CLINICS.

The Council now employs one Senior Health Visitor, five Health Visitors for European post-natal clinics, one Health Visitor for native clinics (with ten native qualified midwives), one Health Visitor for coloured clinics, and one Health Visitor for an Asiatic clinic, plus one Relieving Health Visitor. The Health Visitor for coloured clinics, the Health Visitor for the Asiatic clinic, and the Relieving Health Visitor, are additions to the staff during the year. Expenditure on pasteurised milk, acidophilus milk and accessory foods for infants and mothers keeps on increasing and now amounts to the formidable total of approximately £4,000 per annum.

So far as the Ante-Natal Clinics held twice weekly at the New Market Clinic Building are concerned, it is interesting to note that the attendances continue to increase, viz., 2,294 in 1934-35 as against 1,935 in 1933-34. In this connection your M.O.H. desires to record that it is very obvious that the Council's Specialist Obstetric Officers (Dr. W. H. Maxwell and Dr. F. te Water) have, by their pleasant ways, considerateness to their patients and their professional efficiency, contributed in large degree to the success of these Ante-Natal Clinics. In the same regard your M.O.H. wishes to thank your Pediatric Officer (Dr. B. G. van B. Melle) for his services at your Post-Natal Clinics. Dr. Melle indeed deserves well from the large number of infants whom he has mothered, fathered, and prescribed for in their childish ailments.

The nett position to-day is that the Council provides weekly:—

1. Five Post-Natal Clinics for Europeans.
2. Four Post-Natal Clinics for Natives.
3. Two Post-Natal Clinics for Coloured Persons.
4. One Post-Natal Clinic for Asiatics.
5. Two Ante-Natal Clinics for Europeans.

Finally, your M.O.H. desires to record his appreciation of the loyal services of all members of this branch of his Department.

Pre-school Children.—Four Nursery Health classes were conducted by Miss Brosius, the Supervisor, and her assistants in Vrededorp, Jeppes, Ophirton, and Auckland Park. These classes were well attended and an interesting development is the holding of instructional classes for the mothers of the pre-school children attending the nursery classes. The mothers receive valuable advice from the Supervisor in the upbringing of their pre-school children and it is gratifying to note that the mothers are extraordinarily keen to learn and put in practice the advice given. All the children are regularly examined by the Pediatric Officer and their mental condition and development is attended to by the Council's Psychiatrist (Dr. J. T. Dunston). The Psychiatrist also gives a course of instruction in Psychology and Psychiatry to the assistant teachers of these classes. The children attending these classes, all of whom are the children of indigent parents and between two and six years of age, are given simple health exercises and are instructed in such simple hygienic

measures as head and body cleanliness, teeth cleaning, etc., etc., interspersed with occupational instruction, games, physical exercises and general kindergarten. They receive a daily ration of one-third of a pint of pasteurised milk and are weighed and have their body measurements taken at regular and frequent intervals.

Ante-Natal Nurses.—The Council employs four Ante-Natal Nurses, stationed at two Centres—Western and Central. These Ante-Natal Nurses are qualified general nurses and midwives. They extend ante-natal care to expectant mothers in the homes, shepherd these mothers to the Ante-Natal Clinics, arrange for their confinement in the Queen Victoria Maternity Hospital when desired, or themselves conduct the confinements in the homes. This branch of the work is extending rapidly, and has become a great boon to poor expectant mothers, who in the past have had to submit in their confinements to the tender mercies of the crude and unqualified midwife.

Ante-Natal Clinics.—Two Ante-Natal Clinics are conducted on Tuesday and Friday afternoons at the New Market Buildings. The attendance, shown in the General Summary above, continues to increase, and expectant mothers are now clamouring to avail themselves of this service, which is, of course, designed to ensure safe confinements. Two Specialist Obstetric Officers attend the Ante-Natal Clinics, and, besides carrying out the necessary procedure for the examination of expectant mothers attending the Clinics, render assistance, when necessary, at the confinements which the Ante-Natal Nurses conduct. During the year the Ante-Natal Nurses attended 342 confinements, paid 3,337 post-confinement visits, and made 2,781 visits to expectant mothers in their homes prior to their confinements. Students of the Witwatersrand University attend both the Ante-Natal Clinics and the confinements conducted in the homes by the Ante-Natal Nurses. Such attendance is an integral part of the medical curriculum, and affords facilities to medical students, which they are increasingly taking advantage of. These facilities are now extended to pupil midwives receiving their training at the Queen Victoria Hospital. Pupil midwives are availing themselves of the facilities afforded with enthusiasm.

In the past year it has also been possible to arrange for the attendance at confinements of medical students in the Council's Native Townships by the co-operation of the Manager of the Native Affairs Department.

This arrangement has resulted in increased facilities for pupil midwives attending confinements conducted by the Council's Ante-Natal Nurses. The teaching of obstetrics both to students and pupil midwives has, in consequence, been placed on a satisfactory basis, thanks to the facilities now afforded by the Council and its Welfare service.

HEALTH PROPAGANDA.

The Department's activities on propaganda lines were continued during the year. The principal propaganda measures were:—

(a) Distribution of leaflets on health subjects.

(b) Preparation of new original posters illustrating various health subjects.

(c) Distribution of booklets on health matters. These publications include "Care of Mother and Child," "Your Health, Look into it," (a booklet dealing with every aspect of public health), "Prevention and Destruction of Rats and Mice," "The House or Typhoid Fly." It may be mentioned that by arrangement with the Registrar of Births and Deaths, a copy of the booklet "Care of Mother and Child" is handed to every person registering a birth.

(d) Advertisements in the local papers at some cost, illustrating various public health matters. More especially was public attention called to clean milk production by means of illustrations, and the Press were good enough to elaborate by appropriate articles. Indeed, the Press have assisted greatly in this connection.

PNEUMONIA.

The death-rates per 1,000 from this disease are as follows:—

	Whites	Natives	Eurafricans	Asiatics	England and Wales
1925-26	1·06	4·42	4·71	3·03	0·95 (1925)
1926-27	1·13	4·68	6·07	5·73	0·82 (1926)
1927-28	1·47	5·09	4·46	5·30	0·94 (1927)
1928-29	1·50	5·48	3·29	7·00	0·78 (1928)
1929-30	1·74	7·03	4·77	7·66	1·10 (1929)
1930-31	1·39	7·03	4·55	5·75	0·69 (1930)
1931-32	1·55	7·16	4·60	6·17	0·80 (1931)
1932-33	1·42	6·26	5·92	6·20	0·73 (1932)
1933-34	1·65	6·81	6·20	3·86	0·74 (1933)
1934-35	1·48	5·90	4·28	4·81	0·71 (1934)

MINERS' PHTHISIS, ROCK DRILL PNEUMONIA OR SILICOSIS.

35 deaths (27 Whites, 6 Natives and 2 Eurafricans) were registered during 1931-35, as compared with 41 (33 Whites, 5 Natives and 2 Eurafricans), and 54 (33 Whites, 14 Natives and 7 Eurafricans) in 1933-34 and 1932-33 respectively. The smaller white mortality, taking into account the larger numbers employed, is encouraging and is a tribute to the efficiency of mine preventive measures.

ORGANIC DISEASES OF THE HEART.

These heart affections include pericarditis, endocarditis, angina pectoris, valvular disease and other diseases of the circulatory system. The deaths recorded during the year 1st July, 1934, to 30th June, 1935, were 384 for Whites, as compared with 342 and 354 for the two previous years. This figure represents a rate of 1·60 per 1,000 as against 3·304 for England and Wales in 1933. For Natives the rate was 1·02; for Eurafricans, 2·99; and for Asiatics, 2·84.

DIARRHŒAL DISEASES.

The following are the mortality rates per 1,000 of population for the period under notice:—

	Whites	Natives	Eurafricans	Asiatics	England and Wales.
1925-26	0·59	2·30	5·54	2·69	0·21 (1925)
1926-27	0·99	3·02	4·74	3·11	0·21 (1926)
1927-28	0·59	2·32	4·67	2·96	0·15 (1927)
1928-29	0·63	2·52	3·00	1·42	0·16 (1928)
1929-30	0·65	3·33	2·72	2·53	0·17 (1929)
1930-31	0·78	4·10	3·10	3·87	0·13 (1930)
1931-32	0·49	3·22	2·59	3·20	0·13 (1931)
1932-33	0·68	3·39	4·07	3·10	0·14 (1932)
1933-34	0·56	4·65	4·25	3·67	0·13 (1933)
1934-35	0·42	2·95	1·08	2·73	0·12 (1934)

This rate is appreciably lower for Europeans, and all the rates compare favourably with the rates for the past decennium.

MALIGNANT DISEASE OR CANCER.

During 1934-35, the deaths from cancer numbered 277 Whites (including 48 non-residents), 40 Natives (including 14 non-residents), 10 Eurafrican and 8 Asiatics, as compared with 259 Whites (including 37 non-residents), 39 Natives (including 11 non-residents), 4 Eurafricans and 6 Asiatics in 1933-34 and 252 Whites (including 33 non-residents), 39 Natives (including 11 non-residents), 10 Eurafricans and 5 Asiatics in 1932-33.

Of the 277 Whites, 143 were males and 134 females, and 266 were over the age of 35 years, the rates being 0·99, 1·00 and 1·02 for the three years respectively, as compared with 1·52 per 1,000 for England and Wales in 1933.

In the following table is set forth the part of the body affected:—

	Whites			Natives			Eurafricans			Asiatics		
	1932-33	1933-34	1934-35	1932-33	1933-34	1934-35	1932-33	1933-34	1934-35	1932-33	1933-34	1934-35
Stomach	114	88	111	11	9	9	1	1	4	3	4	4
Womb	48	41	37	5	6	9	4	—	1	—	1	2
Breast	27	24	22	2	3	2	1	1	—	—	—	—
Liver	5	16	12	17	12	17	—	1	2	2	—	—
Neck and Throat ...	13	15	8	2	—	2	—	—	—	—	—	1
Mouth and Jaw ...	4	4	3	—	1	1	2	1	—	—	—	—
Tongue	1	8	5	—	—	—	—	—	—	—	—	—
Lung	7	11	15	—	1	1	1	—	—	—	—	—
Rectum	8	6	15	1	1	—	—	—	1	—	1	—
Prostate	3	15	13	—	1	—	—	—	—	—	—	—
Head and Face	—	2	5	1	—	—	—	—	—	—	—	—
Bladder	7	12	2	—	1	1	—	—	1	—	—	—
Bones	—	1	2	—	—	—	—	—	—	—	—	—
Colon	6	8	6	—	2	—	1	—	—	—	—	1
Spleen	—	—	1	—	—	—	—	—	—	—	—	—
Legs and Feet ...	—	—	2	—	1	—	—	—	1	—	—	—
Hand and Arm ...	—	1	—	—	—	—	—	—	—	—	—	—
Penis	1	1	2	—	—	—	—	—	—	—	—	—
Chest	1	—	1	—	—	—	—	—	—	—	—	—
Eye	—	1	—	—	—	—	—	—	—	—	—	—
Kidney	3	1	2	—	—	—	—	—	—	—	—	—
Glands	1	—	2	—	—	—	—	—	—	—	—	—
Brain	1	—	3	—	—	—	—	—	—	—	—	—
Spine	2	—	2	—	—	—	—	—	—	—	—	—
Unspecified	—	4	6	1	1	—	—	—	—	—	—	—
Total	252	259	277	39	39	40	10	4	10	5	6	8

Whilst the incidence of Malignant Disease shows no increase, it is still more than desirable that persons of 35 years or over should on the least suspicion seek skilled medical advice as consistently advocated by the National Cancer Association of South Africa.

MEASLES.

The death-rates per 1,000 were as follows:—

	1930-31.	1931-32	1932-33.	1933-34.	1934-35.
Whites	0·02	0·01	0·06	0·009	0·05
Natives	0·006	0·04	0·03	0·03	0·02
Eurafricans	—	0·14	0·21	0·06	0·06
Asiatics	0·12	—	0·10	—	0·09

VENEREAL DISEASE.

239 White and 2,691 Coloured cases of Syphilis and other venereal diseases from Johannesburg were treated at Rietfontein Hospital during the year 1934-35.

STATISTICAL REPORT OF DIRECTOR FOR PERIOD 1st JULY, 1934 TO 30th JUNE, 1935.

Venereal Clinic (European).

1.—Summary.

Out Patients		Specimens		Salvarsan	
No. of New Patients	Total Attendances	No. sent to Institute	No. Examined at Clinic	No. of Patients treated with 606 or Substitutes	No. of Doses Administered
1,362	11,635	833	685	1,194	4,561

2.—Attendances and Diseases.

Attendances of New Patients								Attendances of Old Patients							
Gonorrhœa		Syphilis		Soft Chancre		Not V.D.		Gonorrhœa		Syphilis		Soft Chancre		Not V.D.	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
803	147	247	123	2	—	—	—	3,657	1,084	3,707	1,860	5	—	—	—

3.—Laboratory. Number of Specimens Examined and Results of Examination.

Clinic				Institute										Total Number of Specimens Examined
Gonococci		Spirochætes		Others		Gonococci		Spirochætes		Wasserman Test						
+	−	+	−	+	−	+	−	+	−	+++	++	+	−	?		
294	345	—	—	11	25	52	64	—	1	341	16	19	378	—		1,546

Venereal Clinic (Non-European: Females and Children Only).

1.—Summary.

Out Patients		Specimens		Salvarsan	
No. of New Patients	Total Attendances	No. sent to Institute	No. Examined at Clinic	No. of Patients treated with 606 or Substitutes	No. of Doses Administered
77	994	11	—	121	1,066

2.—Attendances and Diseases.

Attendances of New Patients								Attendances of Old Patients							
Gonorrhœa		Syphilis		Soft Chancre		Not V.D.		Gonorrhœa		Syphilis		Soft Chancre		Not V.D.	
M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
—	—	—	112	—	—	—	—	—	—	—	882	—	—	—	—

3.—Laboratory. Number of Specimens Examined and Results of Examination.

Clinic.				Institute												Total Number of Specimens Examined.
Gonococci		Others		Gonococci		Spirochætes		Wasserman Test					Others			
+	−	+	−	+	−	+	−	+++	++	+	−	?	+	−		
—	—	—	—	—	—	—	—	20	37	17	—	2	—	—		76

REMARKS.

1. Attendances of Patients.

European Centre.—As compared with the previous year there is very little difference in the number of new patients who sought advice and treatment at this centre during the period under review.

The same applies to the total attendances.

2. Renovation of the European Special Treatment Centre.

The state of repair of the above centre is such that its immediate renovation is desirable. Your Director has discussed this matter with the Hospital Authorities with a view to getting the Works Department of the Hospital to carry out the necessary repairs and repainting. In view of the fact that the Hospital Works Department may not be able to undertake this work, it may be necessary to have it carried out departmentally by the City Council.

3. General.

As in the past, courses of instruction have been given at your European Centre to the following groups:—

(1) Fifth and Sixth year medical and dental students of the University of the Witwatersrand.

(2) Members attending the Department of Public Health Course of the University.

(3) The ladies who are taking the Health Visitors' and School Nurses' Course under the auspices of the Witwatersrand Technical College.

HENRY GLUCKMAN, M.R.C.S., L.R.C.P.,
Director, Johannesburg City Council's
"Special Treatment Centres."

OPHTHALMIA NEONATORUM.

Cases Notified.

	1932-33	1933-34.	1934-35.
Ophthalmia Neonatorum—			
Whites	7	17	27
Natives	5	7	6
Eurafricans	2	2	2
Asiatics	—	—	2
	14	26	37
Gonorrhœal Ophthalmia—			
Whites	3	3	3
Natives	—	—	—
Eurafricans	—	—	—
Asiatics	—	—	—
	3	3	3
All Cases—			
Whites	10	20	30
Natives	5	7	6
Eurafricans	2	2	2
Asiatics	—	—	2
	17	29	40

The increase in cases notified shows a not undue increase, but possibly more meticulous notification.

NOTIFIABLE INFECTIOUS DISEASES.

During the year under notice, 1,983 cases were notified, viz., 1,346 amongst White, 579 amongst Natives, 42 amongst Euafricans, and 16 amongst Asiatics. These occurrences are discussed elsewhere in this Report.

The procedure adopted in regard to notified infectious diseases, disinfection, etc., has been the same as recorded in previous years.

1,822 houses and 27,267 articles of clothing, bedding, etc., were disinfected.

SMALLPOX.

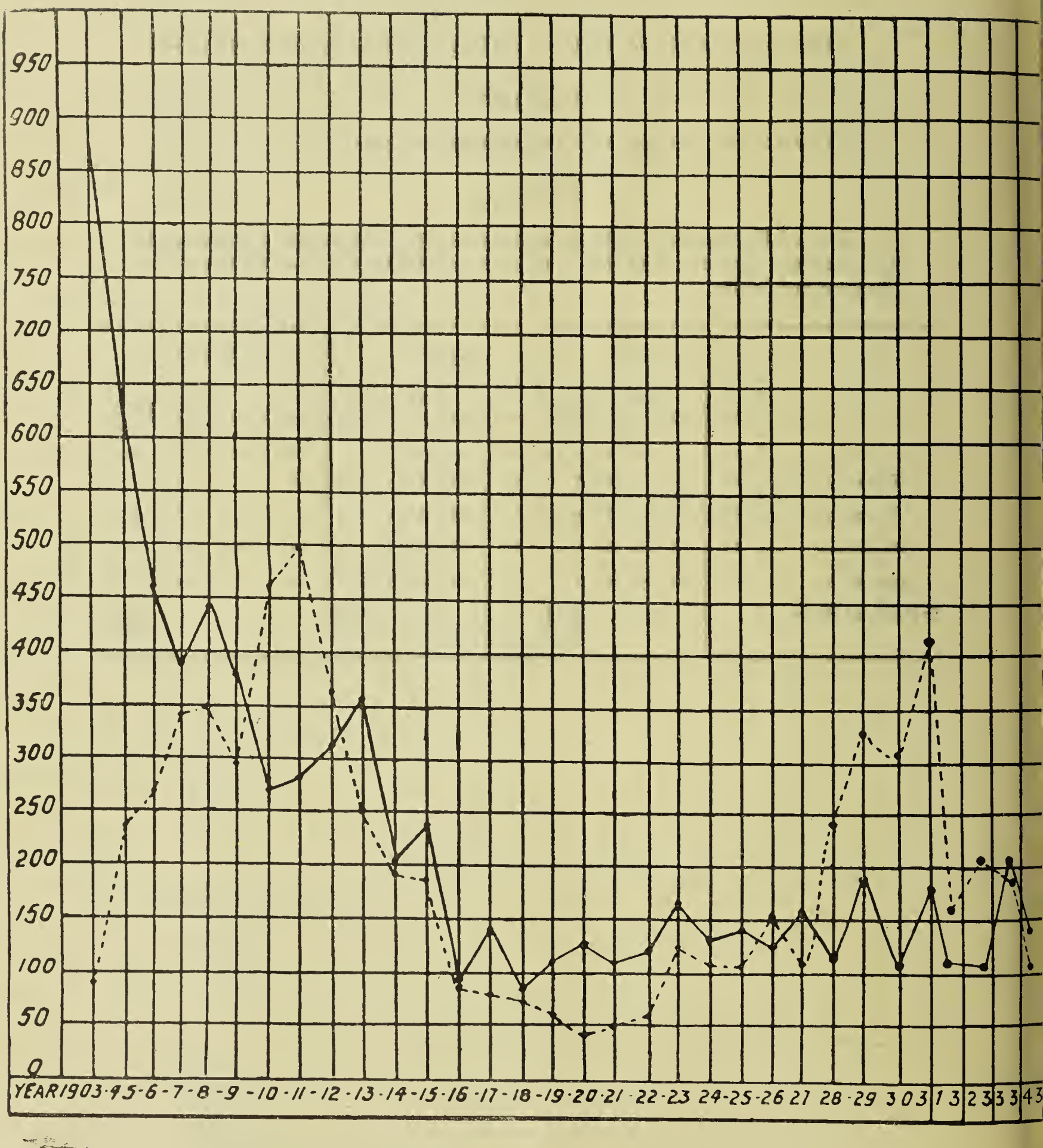
No case of this disease was reported during the year.

ENTERICA.

In the following is set forth the number of cases, and deaths, together with the case-rate per cent. and the death-rate per 1,000, and the death-rate for England and Wales.

	1932-33				1933-34				1934-35			
	Cases	Deaths	Case-rate %	Death-rate	Cases	Deaths	Case-rate %	Death-rate	Cases	Deaths	Case-rate %	Death-rate
Whites	102	18	17·64	0·08	202	32	15·84	0·14	139	16	11·51	0·06
Natives	202	84	41·58	0·54	180	82	45·55	0·49	104	60	57·69	0·33
Eurafricans ...	18	6	33·33	0·42	16	6	37·50	0·41	11	3	27·27	0·20
Asiatics	3	2	66·66	0·20	3	2	66·66	0·19	6	1	16·66	0·09
England and Wales ...				0·006 (1932)				0·006 (1933)				0·00 (1934)

YEARLY INCIDENCE OF ENTERIC FEVER IN THE 32 YEARS, 1903-4 TO 1934-35.



Whites—Continuous Line. *Natives*—Dotted Line.

There is nothing in this incidence to comment on except its continued lowness.

ERYSIPELAS.

77 White, 12 Native and 2 Asiatic cases of Erysipelas were notified in 1934-35, as compared with 60 White, 23 Native and 2 Asiatic in 1932-33 and 58 White and 14 Native cases in 1933-34.

MENINGITIS.

The following table shows the registered number of deaths, with death-rates, from meningitis during the triennium 1932-35:—

	1932-33		1933-34		1934-35	
	Deaths	Death-rate	Deaths	Death-rate	Deaths	Death-rate
Whites	21	0·09	23	0·10	40	0·16
Natives	39	0·25	46	0·27	122	0·66
Eurafricans	5	0·35	5	0·34	3	0·20
Asiatics	3	0·30	—	—	3	0·28

A large number of Native cases of this disease are importations, but there is, nevertheless, a large increase in the incidence. A feature in regard to the cases of this disease is that more deaths (168) are registered than cases notified (145). Such a state of affairs reflects little credit on those medical practitioners who fail to notify their cases and will in all likelihood result, unless the negligence ceases, in otherwise reputable practitioners being haled before the courts for failure to notify their cases.

INFANTILE PARALYSIS.

(Acute Poliomyelitis.)

4 White cases were reported in 1934-35, as compared with 4 White, 1 Native and 1 Asiatic case in 1932-33 and 3 White cases in 1933-34.

The possible extension of this disease is always an anxiety, but there is no indication of spread.

LEPROSY.

2 Native and 1 Asiatic cases were notified in 1934-35. All cases were infected before arrival in the Municipal Area and all were transferred to the Government Leper Institute in Pretoria.

PLAGUE PREVENTION.

No cases of plague occurred during the period under review.

A safety zone continues to be maintained at an approximate radius of three miles beyond the Municipal boundaries. This has necessitated the carrying out of field rodent destruction in 23 distinct areas, totalling many thousands of acres. 4,889 Capex Cartridges, 367 lbs. Cyanogas, 194½ lbs. Wheat, 24 lbs. Sugar, and 24 ozs. Strychinine have been used in this work. In addition, other large areas have been surveyed. 3,845 veld rodents were found dead.

CITY RODENT WORK.

290 visits of inspection have been made by the City Rodent Staff; 203 premises, including bioscopes, theatres, grain stores, furniture stores, cafés, restaurants, refuse tips, and private houses were specially dealt with and advice given for the destroying of rodents and rendering premises rodent-proof. Eleven statutory notices have been served on owners of buildings to execute work for rodent eradication and prevention.

As a result of these measures, the owners of many large buildings now constantly employ rat-catchers.

Stocks in grain stores and the Municipal Market have been frequently "turned over," and numbers of rats have been destroyed by trained Municipal dogs.

All rodents found deal, all rodents obtained from railway trucks and a proportion of trapped rats are sent to the South African Institute for Medical Research for bacterial examination. During the year 1934-35, of the 18,144 rats and 1,850 mice caught, 4,162 or 48·03 per cent., were so examined; none were plague infected. 790 rats were supplied to the Witwatersrand University for experimental purposes.

4,702 Trucks conveying produce have been examined at the Kazerne and Newtown Railway Siding. Municipal dogs are employed in this work.

All hares coming in to the Municipal area have been seized and destroyed.

Owing to rodent infestation of the Council's Native Townships of Orlando and Pimville, one rat-catcher and two rat-catching youths were engaged in February, 1935, to deal with the former and one rat-catcher and two youths in May, 1935, with the latter. In Orlando Township 2,903 visits to houses were made, 1,156 houses treated, 5 lbs. wheat, 350 Capex cartridges and 203 lbs. cyanogas used, and 3,087 rats caught. In Pimville, 391 visits to houses were made, 271 houses treated, 44 lbs. cyanogas used and 1,373 rats caught. In addition 20 visits to houses in Kliptown and Nancefield were made, 16 houses treated and 753 rats caught.

SCARLET FEVER.

In 1934-35 there were 854 White, 3 Native and 1 Eurafrican cases of this disease. There were 5 deaths among the White population, the death-rate being 0·02. In the two previous years the cases notified were 323 White in 1932-33 and 395 White. 2 Natives, and 4 Eurafricans in 1933-34, the mortality rate being 0·009 and 0·06 per 1,000 respectively. The rate per 1,000 in England and Wales for 1933 was 0·02.

TYPHUS.

Four White, 2 Native and 3 Asiatic cases were reported in 1934-35, as against 2 cases in 1932-33 and 2 cases in 1933-34.

DIPHTHERITIC DISEASE, INCLUDING MEMBRANOUS CROUP.

The occurrence of diphtheritic disease in 1934-35 numbered 148 (132 Whites, 12 Natives and 4 Eurafricans), in 1932-33 146 (135 Whites, 4 Natives, 4 Eurafricans and 3 Asiatics), and in 1933-34 222 (211 Whites, 9 Natives and 2 Eurafricans). The case mortality for Whites being 7·84, 7·40 and 17·42 per cent. for the respective years in order mentioned above, and the death rate per 1,000 was 0·04 in 1932-33, 0·07 in 1933-34, and 0·09 in 1934-35, as compared with 0·10 for England and Wales in 1934.

PUERPERAL SEPTICÆMIA, ETC.

In 1934-35 60 cases (39 White, 16 Natives and 5 Eurafricans) were reported, as compared with 53 (27 White, 23 Natives and 3 Eurafricans) in 1932-33 and 65 cases (38 Whites, 18 Natives and 5 Eurafricans) in 1933-34. The death-rate for 1934-35 was 2·15 per 1,000 births for Whites, as against 1·95 in England and Wales in 1934.

ANTHRAX.

No cases of this disease were notified in 1934-35.

INFLUENZA.

The number of registered deaths from influenza during the year was 30 Whites, 21 Natives, 3 Eurafricans and 1 Asiatic. These figures, as compared with most years, are insignificant.

ENCEPHALITIS LETHARGICA.

No cases were notified in 1934-35 as against one case in 1932-33, and 3 in 1933-34. 8 White deaths were registered.

TUBERCULOSIS

Appended is a statistical summary of the mortality from tuberculosis in Johannesburg for the years 1932-33, 1933-34 and 1934-35:—

DEATH-RATE PER 1,000.

	Pulmonary Phthisis			Other Forms of Tuberculosis		
	1932-33	1933-34	1934-35	1932-33	1933-34	1934-35
Johannesburg—						
Whites	0·33	0·28	0·25	0·03	0·02	0·02
Natives	1·42	1·34	1·17	0·18	0·24	0·19
Eurafricans	1·17	1·15	2·14	0·14	0·27	0·17
Asiatics	1·00	1·15	0·86	—	—	0·18
	1932	1933	1934	1932	1933	1934
England and Wales ...	0·687	0·690	0·635	0·150	0·137	0·128

Notification of Tuberculosis.—382 notifications were received during 1934-35, namely, in regard to 34 Whites, 331 Natives and 17 Eurafricans.

The incidence in Natives is practically confined to Natives employed on the Mines.

BACTERIOLOGICAL DIAGNOSIS.

The following are particulars of the specimens examined under this heading for the City Council at the South African Institute for Medical Research during the year 1934-35:—

Disease.	Positive.	Negative.
Typhoid	533	2,393
Tuberculosis	286	11
Diphtheria	420	2,824
Haemolytic Streptococcus ...	385	740
Gonococcus	20	26
B. Pestis	—	4
Malaria	—	1
Tick Fever	1	1
Dysentery	2	—
Leprosy	5	57
Typhus	—	2
Anthrax	2	2
Animal Parasites	—	1
	1,654	5,062

The figures do not include rats examined for suspected plague (vide page 24).

ISOLATION HOSPITALS.

Fever Hospital.—The number of White cases treated at the Fever Hospital in Johannesburg was 716 as compared with 580 in 1933-34, as follows: Scarlet fever 400, diphtheira 134, erysipelas 52, measles 76, enteric fever 1, meningitis 25, chicken-pox 3, whooping cough 3, mumps 10, German measles 1, poliomyelitis 2, typhus 2, tick bite fever 1, tonsillitis 1, dermatitis 1, influenza 1, Vincent's Angina, premature birth 2, septic thumb 1, Anthrax 1.

The cost of the upkeep of the Fever Hospital for 1934-35 was £13,552 2s. 2d.

The Hospital grounds, which in the previous year were improved at considerable cost, now reflect the greatest credit on Mr. Frith, the horticulturist in charge, and are now unrecognisable in beauty as compared with their former barren and gloomy aspect.

Springkell Sanatorium.—23 non-miners suffering from tuberculosis were being treated at Springkell Sanatorium on 1st July, 1934, and 39 fresh cases were sent there during 1934-35. 11 patients died and 20 left. The cost of treatment of these cases was £3,950 16s.

Rietfontein Hospital.

The following cases of infectious diseases were removed for treatment to Rietfontein Hospital, viz.:—

Seven Europeans suffering from mumps, 3 Europeans suffering from measles, and 1 European leper, and of Natives 90 cases of chicken-pox, 31 cases of leprosy, 63 cases of measles, 10 cases of diphtheria, 18 cases of mumps, 1 case of whooping cough, 1 case of suspect smallpox, and 1 case of typhus fever. The cost of these services was £436 6s.

AMBULANCE REMOVALS.

During the period under review, 14 White cases and 220 Coloured were removed to Rietfontein Hospital, 593 White cases to the Fever Hospital, and 71 White cases to the General Hospital. In addition, 20 White patients were removed to the Children's Hospital, 35 patients to the Non-European Hospital, 23 Whites to Springkell Sanatorium, and 55 White to Private Hospitals. Eight cases were also removed from outside districts at the request of, and on payment by, the local authorities concerned.

NURSING HOMES.

There are 38 registered nursing homes in Johannesburg, all of which are periodically inspected by District Inspectors or Health Visitors and the Technical Medical Staff.

LIVE STOCK MARKET AND PUBLIC ABATTOIR.

The following figures have been kindly supplied by the Director, Abattoir and Live Stock Market:—

During 1934-35 1,018,522 animals passed through the Live Stock and Quarantine Yards, and 120,074 cattle, 358,777 sheep, etc., 15,538 calves and 90,187 pigs, or a total of 586,576 animals, were slaughtered at the Abattoir; 1,637,788 lbs. imported meat was inspected, and 1,565,096 lbs. meat was condemned.

FOOD AND DRUG INSPECTOR'S REPORT.

Foods Condemned.

The following foods were condemned by the Food and Drugs Inspectors: 59,955 lbs. fish, 3,192 lbs. smoked, salted or cured fish, 1,060 lbs. prawns, 103 tins fish, 1,609 lbs. meat, 1 buck carcass, 484 dressed poultry, 77 lbs. raisins, 22 bottles olives, 214 tins and 26 cases of fruit, 5 tins vegetables, and 70 bags wheat (contaminated with cattle dip).

During the period under review they passed at Kazerne 277,630 lbs. of hams and bacon, 10,289,320 lbs. of fish, 1,421,369 lbs. smoked, salted or cured fish, 1,109 lbs. game, 24,113 lbs. dressed poultry, 9,913 lbs. meat (including polonies, sausages, etc.), 18,364 lbs. oysters, crayfish, etc., and 2,708 lbs. biltong.

Morning Market.

Inspections of incoming foodstuffs for sale by auction: 14,872 birds and dressed poultry, 1,350 lbs. fish, and 497 carcases of buck.

Daily morning inspections have been made throughout all sections. Odd quantities of lard, honey, hams, bacon, fruit, etc., from outside consignors have been examined and dealt with accordingly.

In conjunction with the Rodent Staff, observations have been kept for certain small game for the purpose of confiscation and destruction under the Plague Regulations. The Market Master has acted promptly on all suggestions for the better handling and layout of all bulk fish and poultry for sale by auction.

Analysis of Foods, etc.

Milk.—Appended is a tabulated summary of milk samples taken from local milkshops, depots and delivery vehicles and, on behalf of the Union Government, on railway stations in the Municipal area:—

	1932-33	1933-34	1934-35
Number of Samples taken ...	543	694	645
Number deficient in Solids-not-Fat	35	81	53
Number deficient in Fat ...	5	26	
Number of Prosecutions ...	15	42	32
Amount of Fines	£41	£118	£64

Food and Drugs.—The following is a summary of samples of foodstuffs taken by the local authority and on behalf of the Union Department of Public Health, which were examined at the Government Laboratories.

Article.	Genuine or Pure.	Below standard or adulterated.	Remarks.
Coffee	3	1	
Honey	—	2	
Cooking Fat	1	—	
Ice Cream	11	10	
Pepper	4	—	
Curry Powder	1	—	
Baking Powder ...	1	—	
Lemon Squash	1	—	
Orange Squash	1	—	
Orange Crush	2	—	
Raspberry Syrup ...	1	—	
Epsom Salts	1	—	
Cream	1	—	
Yeast	1	1	Report to Secretary for Publie Health
Cream Cheese	1	2	Check test for subsequent action
Dried Pears	10	—	Informal samples for Government investigation on spraying of fruit

Three samples of wheat which had been in contact with cattle dip were submitted for examination; the consignment (70 bags) was declared unfit for human consumption and recommended for rodent destruction work.

The number of examinations of milk and foodstuffs is equal to 2·92 per 1,000 of the white population.

General.

Water Supply.—One new borehole water supply for a block of flats was disallowed for human consumption on account of pollution indicated on analysis. Occasional water complaints have been investigated but were found in every case to have arisen on account of long standing without use or a disturbance of pipes by the Council's water branch; arrangements were made for flushing and this procedure cured these troubles.

A survey was made recently on all the large new buildings with a view to ascertaining water supply conditions relative to boreholes; where these were found to have not been notified or tested warning notices were issued.

All known boreholes supplying blocks of flats or business premises have now been tested except in the cases of uncompleted premises which are being kept under observation so that tests may be made before the water is brought into general use.

Blown Tinned or Hermetically Sealed Foodstuffs.—With regard to the amendments to the Public Health Act concerning the above, all wholesalers and large retailers have been inspected and issued with warning notices, drawing attention to the changes.

Periodic inspections indicate that the possibility of the sale to the public of blown containers is very remote. Retailers invariably return blown or doubtful containers and wholesalers have a system whereby these are set aside for periodic destruction.

One case of a sale or attempted sale of blown tins of fish occurred on an auction mart; the delinquent was promptly prosecuted and fined £3.

Some trouble has been experienced lately with what are known to the trade as "flippers." These tins—usually of fish—have a loose flipping movement which to the layman is considered as blown. Examination of a large number of these tins indicated that either the gauge of tin was too fine or improperly crimped and with the decrease of pressure at this altitude, this flipping movement was apparent—in no case were the contents affected detrimentally. Interviews were held with, and a number of letters written to, factory representatives, drawing their attention to the trouble likely to be experienced with retailers and the buying public in this city if these conditions were not remedied.

Food and Drugs Act.—Observations and inspections have been maintained throughout the year in connection with the above.

Sampling has been carried out in all cases of suspicion or complaint.

Labelling generally is steadily improving and where infringements through ignorance of the requirements of the Act were encountered, warning notices were served and followed up.

Regular milk sampling over the whole City has been conducted from the numerous milk-shops, depots, delivery vehicles, tearooms, and on the stations on behalf of the Secretary for Public Health. The moral effect of steady sampling and sudden irregular raids in different areas is reflected in the reasonably low percentage of adulterations which in many cases are not so much deliberate as the more or less slight deficiencies in milk fat are most likely due to carelessness in mixing or poor feeding of the cows. Harmonious co-operative working with the Dairy Section has been very useful and much appreciated.

S. G. RUSSELL,
Senior Foods and Drugs Inspector.

MILK SUPPLIES AND DAIRY INSPECTION.

(a) Inspection of Dairies Inside the Municipal Area.

Local Milk Affairs.

That the local population has increased considerably during the period under review is reflected in matters concerning the City Milk Supply, in so far that during recent years, except at rare intervals, there has always been available a supply of milk in excess of the local requirements, a position that has now almost disappeared. A carefully prepared census of milk arriving at the local railway stations and by road transport, together with that produced within the Council's area, has shown that the milk requirement of the City is greater by 1,225 gallons daily than during the corresponding period of last year.

Further investigations during this period have shown the local production of milk is approximately 1,000 gallons less daily than that of a year ago, which can be accounted for by the number of producing dairies that have closed down for several reasons, chief of which is the rapid growth of the suburban residential areas which, until lately, were the grazing lands of several City dairy herds.

It follows, therefore, that if the growth of the City is to continue, Johannesburg will in the near future have to draw its milk supply mainly from distant sources, and this situation is accentuated by the increasing milk requirements of the growing Reef towns. Of the 24,225 gallons of milk consumed daily in this area, approximately one-fifth is pasteurised or subjected to other forms of heat treatment, which goes to show that the householder prefers to obtain his milk delivered in its raw state, which brings forth the question of the introduction of Bacteriological standards of milk purity, a matter which may require early consideration.

Before Bacteriological standards of milk could be introduced, the Railway Board must of necessity arrange to provide more modern methods of milk transportation than at present exists; it will have to put into operation efficient cold storage vans leading from the outlying milk areas to this centre. Every person permitted to send milk to Johannesburg endeavours by the facilities at his disposal, to reduce milk produced on his farm to as low a temperature as possible, and in the City every licensed milk depot and milkshop is fitted with refrigerating apparatus of one kind or another to rapidly cool milk to a low temperature, and for the maintenance of such at a low temperature by means of cold storage. Milk transported by rail may remain several hours in a truck, depending on the distance separating the point of production and this City, hence the large number of "Sour Returns" received by the farmer producer during the summer months. I suggest that this matter might be referred to the Dairy Control Board for consultation with the Railway Board.

Sources of City Milk Supplies.

Census made during April, 1935:

1. Gallonage of milk arriving daily by rail	11,100
2. Gallonage of milk arriving daily by road transport ...	8,125
3. Gallonage of milk daily produced locally	5,000
	24,225

Daily gallonage increase over the corresponding period of last year, 1,225.

Local Producing Dairies.

Twenty-three locally situated dairies have closed down during the year, seven of this number being in regard to premises and conditions which were regarded by the Public Health Committee on the recommendation of the Medical Officer of Health as being unsatisfactory. Approximately 2,400 cows are at present housed in local dairies, but a further diminution in this number is anticipated in the near future.

Milk Depots and Milk Shops.

The licencees of these concerns are still facing the unfair trade competition by unlicensed milk traders such as the owners of tea-rooms, fruit shops, etc., but as the Council is now in a position to submit its amended Dairy By-laws for approval by the Administrator of the Province, no time is likely to be lost in it so doing.

Yearly Competitions for Gold Medal and Certificate of Merit Awards.

These competitions are conducted in conjunction with the Council's system of score-card inspection of dairies, which takes place during each quarter of the year. To become eligible to enter these competitions, the dairyman in his particular section must have obtained a score averaging at least 90 per cent. over the four quarters of the year. In addition, marks are awarded for bacterial purity and the absence of visible dirt contained in milk samples in the ordinary course of sale or distribution.

In each of the four sections of the competitions, gold medals are awarded for:

(a) Conduct of dairy.

(b) Bacterial purity of milk.

Certificates of Merit are awarded to the competitors whose average marks gained are at least 80 per cent. in the competition.

Awards to Local Dairymen (Retailer Producer Section) for the year ended 30th June, 1934.

Two gold medals and 23 certificates of merit.

Marks obtained by the winner of medal given for conduct of dairy, 93·64 per cent.

Two competitors failed to qualify for awards.

Awards to Outside Dairymen (Retailer Producer Section) for the year ended 30th June, 1934.

Two gold medals and 18 certificates of merit.

Marks obtained by the winner of the medal given for conduct of dairy, 94·71 per cent.

Two competitors failed to qualify for awards.

Awards made in Milkshop Section for the year ended 30th June, 1934.

Two gold medals and 25 certificates of merit.

Marks obtained by winner of medal for "Conduct of Raw Milk Depot," 94·28 per cent.

Seven competitors failed to qualify for awards on account of high Bacteria content in the milk sampled.

Bacteriological Results of Competition Milk Samples for which Gold Medals were awarded.

Raw Milk—City Producer Retailer Section:			5,150	micro-organisms per c.c.
,, ,, Outside ,,	,,	,,	5,600	,, ,,
,, ,, Milkshop	,,	,,	7,600	,, ,,

Pasteurised Milk Depot Section: No awards made.

NOTE.—"Certified Milk" is generally regarded as milk which does not contain more than 30,000 organisms per cubic centimetre.

Competitions for the year ended 30th June, 1935.

88 dairy firms have qualified to enter these competitions.

Score Card Average Returns.

Producer Retailer Section (City):	97 dairies scored	82·5 %
,, ,, ,, (Outside):	48 ,, ,,	89·3 %
Milkshop ,,	86 scored	85·2 %
Pasteurised Milk Depot Section	6 ,,	93·25%

Typhoid Carrier Tests.

255 local dairy employees were subjected to "Widal" blood tests and 4 "reactors" were isolated. The "reactors" were natives who were removed to the Municipal Native Hospital for treatment. No case of enteric fever was traced to any local dairy during this period.

Tests for the presence of Visible Dirt contained in Milk.

640 tests were made of milk in the course of sale and distribution, the samples being obtained during the early morning deliveries as well as at milkshops during normal hours.

The results were classified as follows:—

1. Good—where no dirt was visible on the test wad	...	524
2. Fair—where dirt was visible in a minor degree	...	94
3. Bad—where dirt was highly visible	... ...	22
		640

Number of warning notices served: 54.

Number of prosecutions instigated: 21. Two cases remanded.

14 quart bottles of milk were seized from an outside Producer Retailer, and owing to its dirt content the milk was destroyed and the dairyman was prosecuted and convicted.

Milk Propaganda Work.

Quarterly returns showing the results of Score Card Inspection of dairying conditions are published in the local Press, and milk cartoons are published fortnightly in the "Rand Daily Mail" and "The Star." Pages on milk values are published in the "Mine Worker" and other magazines, school sports programmes, etc. Students in Public Health work and visitors from other centres are periodically conducted over local and near-by dairies, with appreciative results. The support given by the local Press in milk matters is appreciated.

Sale of Butter Fat as Fresh Cream.

No person is allowed to introduce Fresh Cream into Johannesburg without first having obtained a permit so to do. It is believed that butter fat, which is entirely under the control of the Department of Agriculture, is being sold locally as "fresh cream," or in other words, all that is required at present to allow the entry of fresh cream from unpermitted sources is to consign the commodity as Butter Fat. The matter has been discussed with the Superintendent of Dairying for the Union, and he in turn is now dealing with the Dairy Control Board with a view to checking the local supplies of butter fat other than are used in butter manufacture.

Enquiries from Outside Areas.

Enquiries regarding dairy matters were received from the Health Departments of Caledon, Cradock and De Aar, and the information sought was given.

Inspections, Court Attendances, Special Reports, etc.

Number of inspections made by the dairy staff	4,348
Number of special reports, furnished to the M.O.H. or A.M.O.H.	56
Number of prosecutions for contraventions of the Dairy By-laws	47
(Convictions 45, discharged 2, fines paid £92 12s. 6d.)	
Number of plans submitted recently for milkshops in anticipation of the passing of amended by-laws concerning such plans	39
Number of attendances at Public Health Committee Courts	18
Number of complaints received	11
Number of dairies undergoing reconstruction	11

Milk Producing Dairies and Stockyards (local), 1935.

Number of applications received or inspected for licences:	
(a) Number of producing dairies scored	97
(b) Number of dairies where five or less cows are kept	8
(c) Number of licences lapsed where trading has ceased	16
(d) Number of licences refused by Public Health Committee	7
(a) Number of Licenced dairies where no cows are kept	1
(f) Number of licence applications issued for stockyards	4
(g) Number of licence applications not yet issued ...	3
	136

Outstanding Licence Applications.

(a) Producing dairy, allowed until the 17th July, 1935, to complete an order of the Court	1
(b) Producing dairy, applicant to appear before the Public Health Committee	1
(c) Reconstructed stockyard, premises nearing completion	1
	3

Raw Milkshops and Pasteurising Depots.

1. Number of milkshop licences applied for or dealt with ...	148
2. Number of milk depot licences applied for or dealt with	6
	154

Circular notices were sent to all producer-retailer dairymen regarding manure disposal and fly-destruction, and to all persons engaged in the local milk trade, calling attention to certain unsatisfactory methods in milk distribution.

Draft Dairy By-laws.

Draft Dairy By-laws were prepared and submitted to the Medical Officer of Health for consideration, and these are now in the hand of the Town Clerk.

W. C. WATSON,
Senior Dairy Inspector.

(b) Inspection of Dairies Outside the Municipal Area.

Supply of Milk introduced daily into Johannesburg.

The daily supply of milk to Johannesburg from dairy farms situated outside the Municipal Area is approximately 19,000 gallons. Of this quantity some 11,000 gallons are consigned by rail to the different stations within the City, whilst about 8,000 gallons are delivered by road transport.

Owners of milk depots and milkshops receive daily about 15,000 gallons, while some 4,000 gallons are supplied direct to the consumer by outside dairy farmers who are licensed to retail milk in Johannesburg. The total amount of milk used daily in Johannesburg is in the neighbourhood of 25,000 gallons, of

which 76 per cent. is supplied from sources outside the City. These figures show an increase over the preceding year of 2,000 gallons per day, which is, no doubt, largely due to the phenomenally rapid growth of Johannesburg.

Farmer-owned Milk Distributing Depots.

Twenty-seven dairy farmers have established their own milk distributing depots within the City, and are retailing to the public about 4,000 gallons of milk per day.

Number and Situation of Dairy Farms.

The number of dairy farms from which milk was supplied to Johannesburg during the year under review is 370, an increase of eleven over the preceding year. These farms are situated in the districts of Lichtenburg, Ventersdorp, Potchefstroom, Rustenburg, Krugersdorp, Witwatersrand, Pretoria, Middelburg, Vereeniging, Heidelberg, Bethal, Ermelo, and Standerton in the Transvaal, and in the Heilbron, Kopjes, Parys, Kroonstad, Brandfort, and Harrismith districts in the Orange Free State.

Applications by Dairy Farmers for Permits to Introduce Milk into Johannesburg.

Applications received	389
Applications granted	370
Refused or withdrawn	19

A permit to introduce or receive within the Municipality milk or fresh cream produced outside the municipality may be granted for any period not exceeding one year, and all permits expire on the 31st December of the year for which they are granted.

No permit is issued unless all the requirements of the Council's Dairy By-laws are complied with.

Applications by Dairy Farmers for Licences to Retail Milk in Johannesburg.

Applications received	63
Applications granted	59
Refused or withdrawn	4

Licences to retail milk are taken out by dairy farmers living in close proximity to the City who find it more profitable to sell direct to the consumer than to deliver in wholesale quantities to milk depot owners.

Inspection of Farm Dairies.

Regular and systematic inspections were carried out on all permitted dairies from which milk was supplied to Johannesburg. The results of these inspections were carefully reported and any infringement of the Dairy By-laws dealt with immediately. The total number of inspections made was 1,763. Plans drawn in accordance with the requirements of the Council's By-laws were supplied gratuitously to dairy farmers contemplating the construction of buildings for dairying purposes.

Score-card Inspection.

Under this system 47 farm dairies, licensed to retail milk in this City, were scored quarterly. The scores ranged from 74 to 94 points.

Control of Milk Supplies.

Visits were made periodically to railway stations within the City and in outside districts with the object of checking supplies of milk arriving in or being consigned to Johannesburg. Five supplies from unpermitted sources were discovered. Further supplies were immediately prohibited.

Tests for Visible Dirt in Milk.

Seven hundred and six tests for visible dirt were applied to consignments of milk arriving at railway stations within the City or at the source of production. The results were as follows:—Clean 575, fair 97, dirty 34. Thirty-four farmers were warned by letter that proceedings for cancellation of their permits would be instituted without further notice should they in future introduce into Johannesburg milk containing visible dirt.

The visible dirt test is the most effective method of demonstrating to the producer whether or not his methods of handling milk are efficient. A great improvement is noticeable in the cleanliness of the City's milk supply since this test was adopted.

Typhoid Carrier Test.

One hundred and sixty-seven persons (6 whites and 161 natives) engaged in the production or handling of milk submitted themselves to the Widal Test. Eight natives were found to be positive carriers of typhoid. Seven were removed from the dairy premises on which they were employed to the Municipal Native Hospital for treatment, and one was placed in employment not connected in any way with foodstuffs.

We desire to express appreciation of the genuine efforts made by the great majority of dairy farmers to produce clean, wholesome milk of good quality for the Johannesburg market. There is, however, a small proportion of Europeans engaged in milk production who possess practically no knowledge of dairying practice, or of the construction and equipment of buildings for dairying purposes. These people appear to look upon dairying as a remunerative business in which expenditure or attention is unnecessary, and where ordinary measures of cleanliness may be disregarded.

Thanks are due to officials at railway stations throughout the country, and particularly those at Johannesburg, Mayfair, and Jeppe Stations for their willing assistance and co-operation in milk inspection on railway property.

G. CHRISTIE,

JAS. W. FORRETT,

Farm Dairy Inspectors.

WATER SUPPLY.

Water is supplied in bulk by the Rand Water Board to the City Council. The Council controls the distribution of water throughout the city and owns the reticulation. The following table shows the quantity and percentage of water pumped from various sources by the Rand Water Board and is taken from the Thirtieth Annual Report of the Chief Engineer, Rand Water Board:—

Source	Total Quantity Pumped during Year ending 31st March, 1935	Percentages
	Gallons	
From Zwartkopjes	12,969,000	0·16
From Zuurbekom	1,798,067,000	21·45
From Vaal River	6,569,925,000	78·39
Grand Total	8,380,961,000	100·00

The length of the mains within the Municipal Area is now 580·369 miles, 25·408 miles have been added during 1934-35, while during the same period 3,278,869,200, or 8,983,000 gallons of water per day, were supplied to consumers connected to same.

Chemical and Bacteriological Examinations.

Seven hundred and twenty-one samples of water were taken for examination during the year 1934-35, also 80 samples from private boreholes and wells, 20 from swimming baths, and 4 from Klipspruit Stream.

It is desired to acknowledge the obligation of the City to the Officials of the Rand Water Board, who have at all times been assiduous in securing an adequate and pure supply of water to the City and in the area of their reticulation.

SEWERAGE.

The City Engineer has kindly supplied the following information:—

On 30th June, 1935, there were 413·44 miles of sewers and 47 miles of 4in. house connections completed.

On the same date 39,094 premises had been connected.

The Council's Sewerage System now includes outfalls to the Council's Sewage Farm at Klipspruit, and to the new Sewage Disposal Works at Antea (Langlaagte) for the Western Basin, Cydna (Melrose) for the North-Eastern Basin, Bruma (South Kensington) for the Eastern Basin, and Delta for the North-Western Basin.

Klipspruit Sewage Farm.

At this sewage farm great progress has been made. The sedimentation processes have been so improved that the farm, instead of being hailed as a sink of iniquity, has become a pleasant place to passers-by on the Potchefstroom road. Besides, the installation of large acreages of filters at the North-Western and South-Eastern Boundaries of the farm ensures that the final farm effluent can be discharged with impunity into any stream. This effluent to-day is very well within the standards of sewage farm effluents laid down by the Royal Sewage Commission and indeed compares favourably with any effluent discharged from any sewage farm in Great Britain, America or the Continent of Europe.

Sewage Disposal Works.

Of these there are four—Antea, Cydna, Bruma and Delta. These Works are an example of up-to-date sewage disposal processes. They are Works which will unquestionably lead to that knowledge of proper and exact sewage disposal so desirable throughout South Africa, and in spite of trade-wastes difficulties are model sewage disposal works, which give the minimum aerial offence to immediate residents. In the solution of activated sludge methods as applicable to South African conditions these Works have been of great value.

The Bio-Chemist's staff has been increased and his routine work is functioning admirably. But it is not so much in the routine analysis that he is to be congratulated, but in the research work, especially in respect of activated sludge processes, which will lay in time the foundations of complete and innocuous sewage disposal in South Africa, where this subject is but in its infancy. His researches are being continued.

REPORT OF BIO-CHEMIST.

The Bio-Chemist spent the first three months of the year overseas, when, owing to the generous assistance by the City Council, he was able to attend the following Conferences:—

1. The Annual Summer Conference of the Institute of Sewage Purification, where he contributed a short descriptive paper on "The Bio-Chemical and General Research Organisation at Johannesburg."

2. The Public Health Congress of the Royal Sanitary Institute, where he presented a paper on "The Elimination of Smell from Sewers and Sewage Disposal Works." This paper described some of the experimental and large scale work on smell control carried out at Bruma Works.

3. The 7th International Roads Congress, held at Munich, where he was able to meet many workers in Road Tar matters, and to hear discussions on practice adopted in various countries.

Visits to the Ministry of Health, The Water Pollution Research Board, The Chemical Research Laboratory at Teddington, and the Roads Experimental Station at Harmondsworth were made, where your Bio-Chemist was able to discuss developments with the official leaders of Research on Road Tar and on Sewage Disposal in England.

Visits were also made to the following Sewage Works:—West Middlesex, Reading, Birmingham, Wolverhampton, Manchester, Bolton, Wigan, and Southport, as well as various Tar and Gas Works.

Your Bio-Chemist wishes to place on record his thanks and gratitude for the kindness displayed by the large number of gentlemen who rendered great assistance, especially to Dr. Calvert and Dr. Parker of the Water Pollution Research Board, Professor G. T. Morgan and Dr. Lee of the Chemical Research Department, Dr. Stradling and Mr. Tarrant of the Roads Research Department, and to Mr. J. D. Watson (West Middlesex), Dr. Ardern (Manchester), Mr. Whitehead (Birmingham), and Mr. Clifford (Wolverhampton) for their kindness and advice on visiting the works named.

Although the Bio-Chemist was not able to discover that our especial problems in either Sewage Purification or Road Tar Productions have been solved elsewhere, he did receive many useful items of advice and information which will greatly assist in the working out of some of our difficulties.

It was, furthermore, very gratifying to the Bio-Chemist to be able to return to the Johannesburg problems knowing that work of researchers elsewhere had not been overlooked, and with actual advice and encouragement from some of the world's leaders of research. The possibility of wasting time in directions of research already tried elsewhere can only be eliminated by contact with workers elsewhere. This contact, which will be maintained, was the chief object in making the visits referred to above.

The Bio-Chemical and Research Laboratory at the Cydna Sewage Works was completed at the beginning of the year, and adequate laboratory accommodation thus became available.

The amount of general and analytical work for various departments of the Municipality is slowly increasing.

Analyses of such materials as Soaps, Oils, Petrol, Solder, etc., have been made for the Controller of Stores and Buyer.

Occasional Oil samples have been examined for the Tramways Department.

The City Engineer's Department has made extensive use of the chemical service in examination of Bitumenous materials used in road construction under contract, and examination of Oils, Lime, Paint, etc.

SEWAGE DISPOSAL.

Little laboratory and small scale research work on sewage disposal was attempted during this year, because research on Road Tar occupied most of the staff until the start up of the new Activated Sludge Plants.

Tables of average results of the routine weekly analyses are appended. It must be pointed out that a mixed 24 hourly sample was taken every eight days, thus covering in rotation each day of the week.

Bruma Sewage Works.

The first aeration unit of the new Activated Sludge Plant was started up on 14th January, 1935, and the other three aeration units and the settlement tanks were brought into use immediately on completion.

No steady run has been obtained this year because of constructional work still in progress, hence no operation records are given in this report.

Since the Bruma Activated Sludge Plant is installed for the specific purpose of deodorising and partially purifying the settled sewage applied to the Percolating Beds, the actual purification required of the Activated Sludge Plant is not high. Attempts to operate the plant as a partial purification plant on the lines of the Birmingham Plants have so far not been successful, because in our conditions freedom from objectionable odour could only be secured by high nitrification.

Working with sludge of high nitrifying powers, great difficulty was encountered in the settlement of sludge which frequently rose to the surface of the settlement tanks and contaminated the effluent.

A modified method of operation following somewhat the methods used at Croydon was tried on a small scale in 1933, and again for a few weeks in June, 1935, on a larger scale.

In this method which is to be given an exhaustive trial, the main activated sludge plant is operated to give complete treatment to about half the flow (some 600,000 gallons per day), and the surplus sludge removed from this plant in good condition is passed to a combination plant consisting of a 95,000 gallon capacity Diffused Air Unit in series with a 75,000 gallon capacity Hartley Spiroflow Unit; these two small plants were used in experimental work in 1933.

The remainder of the settled sewage is given a very brief treatment in this combination plant, and the effluent mixed with the completely treated effluent before passing on to the percolating beds.

The sludge from this combination plant in an exhausted condition is passed back to waste in the raw sewage.

To establish the most effective balance of conditions, the amount and degree of purification in each plant, the activity and quantity of sludge required, will require lengthy trials, and minor alterations are in progress to give better control and to allow of greater variation in the amount of re-activation of the sludge in the main plant. It must be again emphasised that no smell whatever can be permitted at the Bruma Works.

The large scale Ozonair Plant installed to deodorise the foul air from the building over the Primary Sedimentation Tanks was started up in October, 1934, and has proved satisfactory.

Delta Works.

The constructional work had advanced sufficiently far to permit the start up of the First Digester Unit on 31st March.

Ripe Sludge was brought over from the Digesters at Bruma Works to feed this Digester Unit at Delta Works.

The first Aeration Unit and Settlement Tank was brought into use on 8th April, 1935.

Since no premises were then connected to the sewer some 150,000 gallons of sewage were diverted from the Klipspruit Sewer.

Some months must elapse before the flow at the Delta Works becomes appreciable, hence no operation results are given in this report.

Experimental Digester at Klipspruit Farm.

The small digester installed to allow of experimental digestion of nightsoil was put into use during the year. Experiment is still in progress so records are not yet complete. As a first result, however, it seems hardly feasible to digest nightsoil alone since its foul smell could not be eliminated. Trials are in progress using a proportion only of nightsoil with ordinary sewage sludge.

ALGAL GROWTHS IN YEOVILLE RESERVOIR.

The year has been a difficult one in regard to control of Algal Growths.

The Blue Green Alga Phormidium and the Green Alga Rhizoclonium with occasionally Oedogorium and other filamentous forms have only been kept down by almost continuous dosage with Copper Sulphate.

The unicellular Alga Cosmarium has persisted throughout, as in previous years, as a thin layer on the walls of the old reservoir.

0·2 Parts per million of Copper Sulphate was applied most of the year with occasional increase for 24 or 48 hours to 0·4 parts per million when growths were seen to be vigorously increasing.

On the following dates copper sulphate addition was discontinued:—

4th, 5th and 6th August, 1934.

24th September, 1934.

20th March to 1st April, 1935.

Following this last interruption, it was found necessary to add 0·4 parts per million for 4 days to check the growth of algae.

SWIMMING BATHS.

During the year periodic visits were made to the ten municipal baths when the Testing Sets at the baths were inspected, and samples taken for chemical analysis.

All the baths this year were equipped with chlorine gas dosing appliances, and also automatic Soda and Alum dosers.

The Soda and Alum dosers gave much trouble during the swimming season, but the difficulties have now been discovered and remedied.

As in previous years, it was found only necessary to maintain a decided trace, less than 0·1 p.p.m. of free residual chlorine, at the outlet from the bath, to ensure sterile conditions.

Several times during the season difficulty was found in getting a satisfactory flock on the pressure filters, and it was found that a dose of bleaching powder at once permitted satisfactory purification, the effect lasting for several weeks.

Copper Sulphate had to be used to the extent of 0·5 p.p.m. once or twice at several baths to destroy growth of Algae.

A table of Chemical Analyses at the beginning and end of the season together with the Bacteriological Examination made by the South African Institute for Medical Research at the end of the season are appended.

RESEARCH ON ROAD TAR.

The study of the Viscosity-Temperature relations of Johannesburg Refined Tar, other Refined Tars and Bitumens of various origins alone and in various admixtures has been continued.

The results, although of great interest and importance, are too voluminous to publish in this report.

One very definite conclusion arising from this work is that far too much importance has been attached to the Viscosity-Temperature relation of Road Binders. Thus two different mixtures may possess almost identical Viscosity-Temperature Curves, and yet one may be quite unsatisfactory because of lack of adhesiveness and stability.

The instability of Johannesburg Tar has been made the subject of a somewhat intensive study.

Blowing with air at various temperatures, exposure to actual sunshine and weather conditions on the roof of the laboratory, exposure to the visible and ultra-violet rays of a flame arc lamp, heat treatment alone, preparations of formaldehyde resins in the tar, addition of various fillers and of animal and vegetable oils, have been studied at considerable length.

Whilst overseas in 1934, the Bio-Chemist made some enquiries on this subject of instability of Tars, and the information only serves to emphasise that Johannesburg Tar in most respects resembles a low temperature tar rather than the usual vertical, horizontal or coke oven tars used for road construction.

Small scale preparation of road tar by the " Cut back " method indicates that a better product results than can be obtained by the present system of straight distillation in pot-stills up to the required viscosity.

Experimental stretches of road using tar stabilised in different ways, and various mixtures with bitumen and tars of other origin will be laid down.

Daily examination of the Raw Tar and more careful control of distillation is resulting in a tar of more uniform quality, but until the stability of the tar is secured the present adopted policy of using the Johannesburg Tar in premix and undercoat work only in order to avoid exposure to direct sunshine will be continued.

On 24th September, 1934, Mr. E. H. Selvey, B.Sc., presented a paper to the South African Chemical Institute on " A Colorimetric Method for the Estimation of Free Carbon on Tar."

This paper described in detail the rapid method devised by Mr. Selvey during the course of research on Johannesburg Tar.

H. WILSON, B.Sc., A.M.C.T.,
Bio-Chemist.

TABLE OF CHEMICAL ANALYSES FOR YEAR 1st JULY, 1934, TO 30th JUNE, 1935.

Average of Weekly Analyses: Parts per 100,000.

	Oxygen absorbed in 3 mins.	Chlorine in Chlorides.	Oxygen absorbed in 4 hrs.	Settleable Solids. ccs./Litre.	Nitrous N.	Nitric N.	Ammon. N.	Albd. N.	Bio-Chemical Oxygen Demand 5 days.	% Purification: Screened Sewage to Final Effluent	
										On Oxygen Abs. in 4 hours.	On Albd. N.
ANTEA WORKS:											
Screened Sewage	5·13	14·4	12·61	21·1	—	—	13·32	1·91	—	—	—
Tank Effluent	3·41	14·4	9·46	0·2	—	—	13·76	1·09	—	—	—
Primary Effluent	1·12	14·0	3·10	1·3*	0·2	6·5	3·28	0·45	—	—	—
Secondary Effluent	0·55	14·1	1·48	—	0·1	7·4	2·22	0·16	1·24	88·4	91·6
BRUMA WORKS:											
Screened Sewage	3·76	20·1	12·64	13·1	—	—	9·24	1·45	—	—	—
Tank Effluent	3·07	20·6	7·21	1·0	—	—	9·35	1·15	—	—	—
Primary Effluent	1·32	20·9	3·97	5·7*	0·2	1·0	4·18	0·90	—	—	—
Secondary Effluent	0·64	20·8	1·62	—	0·04	4·0	4·07	0·27	1·84	87·2	81·2
CYDNA WORKS:											
Screened Sewage	2·98	10·3	10·58	7·4	—	—	8·25	1·49	—	—	—
Tank Effluent	2·16	10·9	7·58	0·5	—	—	8·78	1·08	—	—	—
Primary Effluent	0·88	10·9	2·78	1·6*	0·2	4·7	2·41	0·45	—	—	—
Secondary Effluent	0·38	10·9	1·07	—	0·6	4·7	1·74	0·13	1·19	90·0	91·4
KLIPSPRUIT FARM:											
Screened Detritus-Free Sewage	7·84	22·4	23·70	19·4	—	—	13·11	3·35	—	—	—
Primary Tank Effluent ...	6·35	21·5	17·51	4·1	—	—	12·36	1·70	—	—	—
Secondary Tank Effluent ...	6·06	21·9	15·34	2·1	—	—	13·81	1·35	—	—	—
Effluent to Homestead Farm	1·01	44·4	4·12	—	0·02	1·3	3·56	0·26	2·10	—	—
Effluent from Herrington's Spruit Farm	0·65	46·6	1·94	—	0·07	1·6	2·17	0·23	1·67	96·6	94·0

N.B.—During the year one sample of Bruma final effluent and 17 samples of Klipspruit final effluent were unstable.

* Indicates that the Settleable Solids were humus.

CHEMICAL EXAMINATION OF THE WATER FROM THE MUNICIPAL SWIMMING BATHS, JOHANNESBURG. SEASON 1934-1935.

Examined at the Municipal Bio-Chemical Laboratory, Cydna.

BATH		Time Taken	Position Taken	Free Chlorine	Total Chlorine	pH	Alkalinity	SOLIDS Total	SOLIDS Loss on Ignition	Total Hardness (Pts. $CaCO_3$)	Oxygen (absorbed in 4 hours)	Nitrous N	Nitric N	Ammon. N	Albd. N	B.O.D.	SO_3	Fe_2O_3 + Al_2O_3	CaO	MgO	Remarks.
Ellis Park	B	2.0 p.m.	Inlet	nil	1·1	7·0	1·3	10·44	2·72	7·0	0·02	nil	0·16	0·002	nil	0·02	0·66	0·38	1·68	nil	Strong " urine " stench.
	E	11.0 a.m.	Middle	trace	4·8	6·4	0·3	25·04	7·78	11·5	0·15	nil	0·17	0·012	0·021	0·08	5·30	0·70	3·39	0·59	Much charring.
Malvern	B	2.30 p.m.	Inlet	nil	1·9	7·2	2·0	16·40	5·16	10·6	0·06	trace	0·20	0·007	0·055	0·06	2·22	0·30	5·59	nil	Slight smell.
	E	10.5 a.m.	Middle	nil	6·4	7·0	0·9	27·76	4·60	10·8	0·10	nil	0·09	0·028	0·030	0·06	5·79	0·56	4·17	0·17	Slight charring.
Mayfair	B	9.30 a.m.	Inlet	nil	0·8	7·2	3·0	15·6	6·68	11·4	0·04	trace	trace	0·013	0·051	0·20	0·40	0·16	3·58	nil	Slight smell.
	E	9.25 a.m.	Middle	nil	7·6	7·2	1·5	34·34	14·74	18·3	0·18	nil	0·26	0·044	0·028	0·05	4·45	0·35	6·50	1·78	Charring.
Milner Park	B	9.15 a.m.	Inlet	trace	2·4	7·2	2·9	20·52	9·72	11·0	0·03	nil	0·06	0·010	0·054	0·20	1·68	0·26	5·04	nil	Slight smell.
	E	9.50 a.m.	Middle	nil	11·2	7·2	1·3	48·62	17·56	21·0	0·16	nil	0·38	0·038	0·030	0·08	5·25	0·38	14·60	2·28	Charring.
Paterson Park	B	8.15 a.m.	Inlet	trace	1·8	7·2	1·9	16·16	5·64	9·8	0·02	nil	0·05	0·008	0·055	0·03	2·58	0·24	5·14	nil	Slight smell.
	E	10.55 a.m.	Middle	trace	6·0	7·0	0·4	24·26	9·54	10·4	0·14	nil	0·13	0·018	0·030	0·07	5·14	0·35	4·26	0·67	Charring.
Pioneer Park	B	3.10 p.m.	Inlet	0·1	2·2	7·2	2·0	21·08	9·60	11·2	0·04	nil	0·10	0·006	0·051	nil	1·64	0·30	5·38	nil	Strong " urine " steneh.
	E	9.40 a.m.	Middle	trace	13·2	6·6	0·3	42·80	6·80	16·0	0·10	trace	0·16	0·036	0·036	0·04	9·76	0·66	6·44	0·70	Much eharring.
Rhodes Park	B	2.20 p.m.	Inlet	nil	1·8	7·2	2·3	15·08	5·12	11·0	0·09	trace	0·16	0·006	0·054	0·13	1·81	0·22	4·98	nil	Slight smell.
	E	10.15 a.m.	Middle	0·2	9·8	7·2	0·7	37·12	7·70	17·3	0·06	nil	0·18	0·022	0·043	0·05	6·74	0·37	6·92	0·58	Slight charring.
Turffontein	B	3.20 p.m.	Inlet	nil	2·4	7·2	2·1	17·8	5·32	10·8	0·08	nil	0·18	trace	0·056	0·06	2·10	0·30	5·94	nil	Strong " urine " stench.
	E	9.25 a.m.	Middle	0·2	11·8	6·8	0·6	45·30	5·76	17·0	0·13	nil	0·16	0·024	0·026	0·04	9·66	0·68	3·13	0·68	Much eharring.
Yeoville	B	1.15 p.m.	Inlet	0·3	4·0	7·2	2·3	26·27	7·64	12·2	0·04	trace	0·16	0·003	0·060	0·21	2·60	0·29	7·84	nil	Very marked "urine" smell.
	E	11.15 a.m.	Middle	0·2	12·2	7·1	0·4	51·80	12·86	17·3	0·28	nil	0·11	0·072	0·068	0·09	9·80	0·42	8·15	0·93	Much charring and stench.
Zoo Lake	B	8.45 a.m.	Inlet	trace	1·4	7·2	2·1	15·48	4·68	9·8	0·06	nil	0·14	0·010	0·054	0·07	2·33	0·20	4·54	nil	Slight smell.
	E	10.5 a.m.	Middle	0·4	6·6	7·1	0·7	29·12	6·62	12·3	0·12	nil	0·20	0·018	0·025	0·06	6·62	0·38	4·82	0·76	Slight charring.

Free Chlorine expressed as parts per million.

"Alkalinity" expressed as c.c.s. $\frac{N}{10}$ HCl per 100 c.c.s. sample, to methyl orange indicator.

Other results expressed as parts per 100,000.

B = Samples taken at beginning of season.

E = Samples taken at end of season.

Notes: (I) Remarks.—These refer to the odour on evaporation of 500 c.c.s. of the sample almost to dryness, and then to the results on ignition of the dry solids. The remarks apply to "E" only. "B" had no smell.

(II) The B.O.D. figures at the beginning of the season were affected by fluctuations in the temperature of the incubator.

BACTERIOLOGICAL EXAMINATION AT THE END OF SEASON.

By the South African Institute for Medical Research.

Bath.	Organisms per c.c., growing at 37°C.	Bacillus Coli in 10 c.c.	Spreading Colonies.
Ellis Park	4	Not isolated	Not observed.
Malvern	2	Not isolated	Not observed.
Mayfair	3	Not isolated	Not observed.
Milner Park	110	Not isolated	Not observed.
Paterson Park ...	2	Not isolated	Not observed.
Pioneer Park	2	Not isolated	Not observed.
Rhodes Park	20	Not isolated	Not observed.
Turffontein	10	Not isolated	Not observed.
Yeoville	2	Not isolated	Not observed.
Zoo Lake	1	Not isolated	Not observed.

MINES SANITATION.

The usual procedure has been carried out in regard to systematic inspections of the mining properties in the Johannesburg area.

This work has included frequent inspections of all Native compounds, hospitals and locations, married and single White quarters, contractors' compounds, brickfields, dairies and cowsheds, Native eating houses, stone crushing works, mine boarding houses, railway stations and quarters, pumping and power stations, disposal of refuse, the sanitary arrangements at the various works and the supervision of the daily cleaning up and scavenging at all places and premises on the surface.

All plans submitted in regard to new, or additions and alterations to existing housing accommodation, drainage or other sanitary requirements have been examined by the Medical Officer of Health and amended when necessary.

All cases of infectious disease among White, Natives and Coloured persons have been visited, inquired into and reported on in the usual way.

UNDERGROUND SANITATION.

Systematic inspections are made in regard to underground sanitation of all mining properties in the Johannesburg area. This supervision includes the inspection of all sanitary arrangements on all levels, working places, stations; the inspection of disused stopes, ladderways, etc., and the provision of suitable drinking water supplies on each level.

It is very satisfactory to be able to report that the work of supervising sanitary work and cleansing methods underground is carried out by white men, and there is no doubt that this accounts for the general high standard which has been maintained throughout the year.

It is desired to acknowledge the ready, reasonable and sympathetic attitude of Mine Managers in regard to requirements called for by the department.

The Government Mining Engineer and the Director of Native Labour have been kept in close touch with the general work of mine sanitation under the Department's direction.

SLUMS AND INSANITARY PROPERTIES.

During the year under review, no Closing Orders were obtained under the Local Government Ordinance No. 11 of 1926, the Public Health Committee having given instructions to proceed with insanitary properties under the Slums Act No. 53 of 1934. Prior to this instruction, 163 Closing Orders had been obtained, and these properties were either reconstructed or applications for Demolition Orders were made to the Courts.

As a result, 52 Demolition Orders were obtained and the number of properties reconstructed was 111, in the following areas:

Properties Reconstructed:

Vrededorp 24, Malay Location 21, Johannesburg 17, Doornfontein 12, Newtown 6, Fordsburg 4, Ophirton 4, City and Suburban 4, Burghersdorp 3, Ferreiras 3, Marshalls 2, Melville 2, Jeppes 2, Spes Bona 2, Farm Doorfontein No. 24 2, Bertrams 1, La Rochelle 1, Booysens Reserve 1.

Properties Demolished:

Johannesburg 13, Malay Location 10, Vrededorp 5, Doornfontein 3, Newtown 2, Marshalls 2, Melville 2, Booysens Reserve 1, Fordsburg 1, Ferreiras 1, Ophirton 1, Bertrams 1, Burghersdorp 1, North Doornfontein 1, Troyeville 1.

Action is being taken in connection with the 7 properties which have not yet been demolished.

Slums Act.

The following Areas were dealt with under the Slums Act No. 53 of 1934: Bertrams, New Doornfontein and Prospect Township. The number of properties dealt with as Slums was as follows: Bertrams 35, New Doornfontein 59, Prospect Township 77.

The number of families requiring to be dehoused are:—

Bertrams: 33 Europeans, 10 Asiatics, 96 Coloured, and 8 Native.

New Doornfontein: 9 Europeans, 27 Asiatics, 106 Coloured, and 468 Native.

Prospect Township: 6 Europeans, 19 Asiatics, 10 Coloured, and 1,565 Native.

INSPECTION OF PLANS.

As predicted in last year's report, the work of inspection of plans increased considerably. No less than 6,962 plans were approved, as against 6,922 the previous year, which figures show only an increase in number of forty, but the difference in the estimated value of the work shows a very marked improvement for the year under review. The figures for the year ending 30th June, 1935, are £5,840,155 as against £3,928,738 for 1934, an increase of £1,911,417. At present no diminution in the volume of work is apparent, and the figures quoted constitute a record.

All plans submitted to the Council through the City Engineer are passed on to your Medical Officer of Health for examination *re* all matters relating to drainage, lighting, ventilation, open space, licensing, etc. The provisions of the Factory Act, Native Labour Regulations (1911), Natives (Urban Areas) Act, Slums Act, Town Planning Ordinance, all receive necessary consideration before plans can be finally approved.

The majority of the drawings are returned for amendments and are, therefore, handled twice or three times.

As extensive slum clearance work is now proceeding under the Slums Act, the system is particularly valuable, especially in cases of partial demolition and rebuilding, as the closest co-operation exists between the officials concerned, enabling great improvements to be effected.

The co-ordination and organisation of work and the cordial relations existing between the City Engineer's staff, the Inspector of Factories, the Municipal Native Affairs Department, and the Plans Inspection staff is gratifying.

Many architects and their assistants, builders, plumbers and owners avail themselves of the opportunities given to discuss improvements and amendments, and the qualified and valuable advice given is duly appreciated.

The difficult problem of preventing some considerable amount of skilful circumvention of the By-laws has engaged the attention of your Medical Officer of Health and plans staff, and the measures to be adopted will, it is hoped, soon have a marked effect in planning of certain types of domestic buildings in specified areas.

In addition to the ground covered by the Special Inspectors, the District Inspectorate Staff have accomplished 293 inspections in connection with repairs to buildings, and 386 inspections in connection with unauthorised buildings. They have also in respect of insanitary properties, where necessary alterations were of a minor character, served 81 notices, paid 5,070 visits of inspection and secured the demolition of 56 and the vacation of 45 properties (*vide* following schedule):—

ANNUAL RECORD OF DUTIES PERFORMED BY DISTRICT INSPECTORS ONLY.

From 1st July, 1934, to 30th June, 1935.

Inspections.	
Buildings—	
Repairs to	293
Unauthorised	386
Closets and Urinals—	
Inspected	9,642
Additional Provided	274
French Drains	453
Houses—	
Dwellings	8,094
Insanitary Dwellings—	
Notices	81
Visits	743
Demolished	56
Vacated	45
Interviews—	
Owners, Agents, etc.	2,253
Native Housing	3,346
Nuisances—	
Animals	382
Drainage	906
Fly	724
Manure	766
Mosquito	103
Rats	714
Refuse	2,448
Slopwater	932
Smoke	215
Stables	1,237
Stormwater	119
Unspecified	2,701
Samples Taken—	
Water	170
Service Complaints	361
Slum Properties	4,327
Wells and Boreholes	54
Cyanide Fumigations—	
Supervised	3,603
Infectious Diseases—	
Cases Investigated	970
Contacts	157
Vaccination	—
Licensing Court	193
Licensed Premises—	
Aerated Water and Ice Factories	154
Asiatic Eating Houses	84
Bakeries	1,462
Barbers' Shops	936
Bioscopes	224
Boarding Houses	720
Butchers' Shops	3,801
Cowsheds	7
Dairies	68
General Dealers	10,792
Hotel Dining Rooms	338
Ice Creameries	81
Kaffir Eating Houses	2,260
Laundries	505
Lodging Houses	70
Milk Shops	111
Noxious Trades	2,544
Nursing Homes	603
Private Cows	16
Restaurants	1,262
Tea Rooms	2,006
Notices Served—	
Statutory	2,014
Others	1,805
Prosecutions	96
Attendance at Court	101
Special Duty	451

LICENSED PLACES.

From 1st July, 1934, to 30th June, 1935, 4,566 applications for licences of various kinds have been dealt with, the premises in question being in all cases carefully examined as to sanitary requirements.

	1934-35		
	Granted	Refused or not taken out	Total
1. Tea Shops, Eating Houses, Restaurants, etc.	1,035	84	1,119
2. Dairies	215	39	254
3. Milk Shops	195	9	204
4. Butchers' Shops	649	62	711
5. Bakers and Confectioners	130	78	208
6. Permits to introduce Milk	462	54	516
7. Kaffir and Asiatic Eating Houses ...	174	37	211
8. Nursing Homes	38	6	44
9. Laundries	59	4	63
10. Ice Creameries	374	9	383
11. Noxious or Offensive Trades	328	42	370
12. Aerated Water and Ice Factories ...	31	—	31
13. Hairdressers and Barbers	385	63	448
14. Lodging House	3	1	4
	4,078	488	4,566

PROSECUTIONS.

218 persons were prosecuted for various breaches of the Public Health Act and By-Laws, 213 were convicted, and fines aggregating £475 7s. 6d. were imposed. Particulars are appended:—

By-laws Infringed.	Race of Accused.			Totals.
	Whites.	S.A. Coloured.	Asiatic.	
Prevention of Nuisances ...	64	7	23	94
Sale of Food and Drugs ...	34	—	1	35
Clean Milk	7	3	11	21
Dairies and Milk Shops ...	35	—	3	38
Butchers	9	6	4	19
Exposure of Food	5	—	1	6
Kaffir Eating Houses ...	2	—	—	2
Licences	1	—	—	1
Fumigation	2	—	—	2
Totals ...	159	16	43	218
RESULTS—				
Convicted and Fined ...	146	14	42	202
Convicted and Cautioned ...	9	1	1	11
Dismissed	3	1	—	4
Withdrawn	1	—	—	1
Prohibition Order Granted ...	1	—	—	1
AMOUNT OF FINES ...	£329 0 0	£17 2 6	£129 5 0	£475 7 6

This work is supervised by the Medical Officer of Health, under whose directions proofs of evidence, summonses, subpœnas and charge-sheets are prepared and handed to the Council's Solicitors.